CHAPTER 2.0 SIGNIFICANT ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED IF THE PROPOSED PROJECT IS IMPLEMENTED

This chapter of the EIR provides a detailed discussion of those subject areas that would be significantly impacted by the project and for which feasible mitigation measures would not reduce the impacts to below a level of significance. Aesthetics, air quality, and traffic are the issues that would incur significant and unavoidable adverse impacts.

2.1 Aesthetics

A Visual Impact Assessment (2009) for the Proposed Project and off-site improvement areas is summarized below. This report is included as Appendix C-1 to this EIR.

2.1.1 Existing Conditions

Existing Regulations

The numerous regulations relating to scenic resources protection and aesthetic development of land within the County applicable to the Proposed Project are briefly described below. An analysis of the Proposed Project's consistency with these aesthetic regulatory plans and policies is provided in the following Section 2.1.3, Analysis of Project Effects.

California Scenic Highway Program

The purpose of the California Scenic Highway Program (California Streets and Highways Code, Section 260-283) is to preserve and protect scenic highway corridors from change that would diminish the aesthetic value of lands adjacent to highways. The program defines the process for the designation of official scenic highways and includes a legislatively appointed body, the Departmental Transportation Advisory Committee (DTAC). The DTAC recommends program criteria, reviews applications, and advises the Director of the California Department of Transportation (Caltrans) to revoke scenic highways that are no longer in compliance with the program.

I-15 is classified as an "Eligible" California Scenic Highway from SR-76 north to SR-91 near the city of Corona. Since the Project Site is immediately north of SR-76 and east of I-15, it is located within the Scenic Highway corridor.

San Diego County General Plan

The San Diego County General Plan provides guidance for the preservation of aesthetic resources through its Scenic Highway Element, Open Space Element, and Community Plans. The Scenic Highway and Open Space Elements are important policies that specifically guide the protection of the County's aesthetic resources of scenic highways and open space, and are discussed under separate subheadings below. The community plans which are a part of the General Plan, include goals, policies, and recommendations to guide development of a particular region. As identified in Chapter 1, the Project Site lies within the Fallbrook CP area.

Fallbrook Community Plan and I-15 Corridor Subregional Plan

The Fallbrook CP identifies a variety of specific aesthetic planning considerations, including development guidelines to protect visual character and quality and to minimize adverse aesthetic affects. This includes a Community Beautification and Design Goal with multiple policies intent on encouraging "sensitive" designs focused on preservation of mature trees and significant landforms (Policy 1), signage complimenting aesthetic values (Policy 4), "village style" architecture (Policy 6), wise grading practices and revegetation of disturbed areas (Policy 8), and protection of ridgelines and steep slopes (Policy 9 and 10).

Additionally, the Fallbrook CP includes Circulation Element Goals and Policies focused on preservation of rural and agricultural character (Goal 4), maintenance of natural contours (Policy 4.1) and provisions of trail systems (Policy 8.2).

The CP was amended in 1988 to include the I-15 Corridor Subregional Plan (Corridor Plan) and Scenic Preservation Guidelines. The Project Site falls within the I-15 Corridor Subregional Plan scenic corridor viewshed, which extends to either side of I-15 at varying widths up to two miles. The plan area is divided into six segments along the corridor. The Project Site lies in Segment 4, which is approximately one-mile wide on the east side of I-15 and goes to the ridgeline of Monserate Mountain, just inside the eastern boundary of the Project Site.

The I-15 Corridor Scenic Preservation Guidelines apply to the unincorporated portion of the I-15 corridor which includes the Project Site. The purpose of the Guidelines is to (1) protect and enhance scenic resources, (2) establish standards to regulate visual quality, and (3) encourage scenic preservation consistent with the standards. The standards address site design measures and include: site planning, parking and circulation design, site lighting, landscape design, public utilities and safety, development standards for steep topography and natural features, as well as architectural design standards.

Appendix B of the Corridor Plan consists of the I-15/SR-76 MSP. The western vertical strip, comprising 92 acres of the Project Site, lies within the Corridor Plan and MSP areas (refer to Chapter 4.1.1).

San Diego County Scenic Highway Program

The San Diego County Scenic Highway Program establishes a scenic highway system priority list, which is included in the General Plan Scenic Highway Element, Part VI (described below). The goal of the Scenic Highway Program is to protect and enhance the county's "scenic, historic, and recreational resources" within the viewshed of all scenic highway corridors. Two officially designated state scenic highways exist in the County, but are not in proximity to the Project Site. The remainder of the routes in the Scenic Highway Program are listed as first, second, or third priority scenic routes. There are six first priority routes, sixteen second priority routes and thirty-eight third priority routes.

San Diego County General Plan, Scenic Highway Element, Part VI

The western edge of the Project Site lies approximately one-half mile east of I-15. This portion of I-15 north of SR-76 has been listed in the San Diego County Scenic Highway

Element as a Third Priority Scenic Route. Part VI of the Scenic Highway Element includes objectives to: (1) establish a comprehensive County Scenic Highway Program, (2) protect and enhance scenic resources within both rural and urban scenic highway corridors, (3) encourage and promote increased coordination and implementation of the program, and (4) increase public awareness and involvement in the program.

San Diego County General Plan, Open Space Element

The Open Space Element provides guidelines for the conservation, development, and utilization of natural resources, unique geologic features, agricultural resources, and cultural and biological resources.

San Diego County Zoning Ordinance, Scenic Area Regulations

The Scenic Area Regulations of the San Diego County Zoning Ordinance (Section 5900-5910) serve to regulate development in areas of high scenic value, to exclude incompatible uses and structures, and preserve and enhance the scenic resources present in adjacent areas. The regulations apply to areas of unique scenic value including, but not limited to, scenic highway corridors designated by the San Diego County General Plan and areas adjacent to significant recreational, historic, or scenic resources, including, but not limited to, federal and state parks. The designation for scenic areas is identified on a parcel-by-parcel basis by the special area designator “S”.

San Diego County Zoning Ordinance, Design Review Area Regulations

The San Diego County Zoning Ordinance includes provisions to ensure that future structures and development of a site will complement not only the site to be developed, but also the surrounding areas and existing development. The provisions require that a site plan be submitted for certain discretionary project applications within those areas having a “D” zoning designator, indicating the need for design review. The regulation requires that specific criteria be reviewed to achieve the objectives of the approving authority. These criteria include a review of building characteristics, building structure and placement, landscaping, roads, pedestrian walkways, parking and storage areas, grading, signs, and lighting. Applicable community planning or sponsor groups have an opportunity to review such site plans and to represent their recommendations.

Resource Protection Ordinance

As explained in Chapter 4.1.1, Land Use and Planning, the purpose of the RPO is to protect a variety of resources, including steep slopes and cultural resources. The RPO limits development on steep slopes through density restrictions on steep slope lands and through requirements for preservation of steep slope areas in dedicated open space easements. As shown in Figure 2.1-1, 186.9 acres of the Project Site are comprised of steep slopes (slopes with gradient equal to or in excess of 25 percent), 180.3 of which meet the steep slope criteria under the RPO.

The Hillside Development Policy (described below) preceded the RPO; however, the intent of both is the same. Because the RPO is stricter in its requirements for preservation of steep slopes, it has become the main planning tool for preservation of this resource.

San Diego County Light Pollution Code

The San Diego County Light Pollution Code (sections 59-101-59.113 of the San Diego County Zoning Ordinance) seeks to control undesirable light rays emitted into the night sky in order to reduce detrimental effects on astronomical research. The Ordinance designates the unincorporated portions of the County into two zones based on distances from both the Palomar Observatory and the Mount Laguna Observatory. Areas within 15 miles of either observatory are designated Zone A, while the remaining areas are designated Zone B. The Project Site is located more than 15 miles from Mts. Palomar and Laguna and is therefore within the Zone B.

Hillside Development Policy, I-73

The Hillside Development Policy was adopted by the County Board of Supervisors in 1979 to preserve aesthetic resources by encouraging the preservation of the existing natural terrain, established vegetation, and visually significant geologic features. To minimize the effects of disturbing natural terrain, the policy provides creative and flexible design guidelines for Hillside Developments to reduce the effects of disturbance of steep slopes. Specifically, the guidelines aim to "preserve, enhance or improve the physical features of the area consistent with providing building sites while at the same time optimizing the aesthetic quality of the final product."

Existing Visual Environment

The visual character and quality of the Project Site and surrounding area is described in detail in Appendix C-1 and summarized below.

A visual environment can generally be described by physical and perceptual quality factors. Physical factors are the physical pattern elements of which the landscape unit is built. It is the relationship of these elements that construct the visual character of a particular view. Physical pattern elements include form, line, color and texture. Distinctions in visual character are generally traced to four aspects of pattern character: dominance, scale, diversity, and continuity, as described below.

- Specific components in a landscape may be visually dominant because of position, extent, or contrast of basic pattern elements.
- Scale is the apparent size relationship between a landscape component and its surroundings; an object can be made to look smaller or larger in scale by manipulating its visual pattern elements.
- Visual diversity is a function of the number, variety, and intermixing of visual pattern elements.
- Continuity is the uninterrupted flow of pattern elements in a landscape and the maintenance of visual relationships between immediately connected or related landscape components.

The quality of a visual environment is determined by perception and is based upon a viewer's cognitive assimilation of landscape elements into a memorable landscape image, distinguishable from other visual environments within the region. Perceptual quality factors include vividness, intactness, and unity, as described below.

- Vividness is the visual power or memorability of landscape components as they combine in striking and distinctive visual patterns.
- Intactness is the visual integrity of the natural and man-built landscape and its freedom from encroaching elements.
- Unity is the visual coherence and compositional harmony of the landscape considered as a whole.

Areas with high visual quality are those where all three perceptual quality factors are high. Areas with moderate visual quality are those where one of these factors is low. Areas with low visual quality are those where two or more of these perceptual factors are low.

A visual environment's ability to absorb changes in visual character and quality constitutes its visual sensitivity. Areas with a high sensitivity to visual change are those that have distinctive pattern elements, are visually prominent, or contain a dominant visual character component, and have high visual quality. Areas with moderate sensitivity to visual change are those that contain several varying visual character pattern elements and have a moderate visual quality. Areas with low sensitivity to visual change are those that contain several varying visual character pattern elements but have a low visual quality.

Visual Character

The visual character of the Project Site is comprised of the following distinctive landscape components:

- Varied topography, from the flat, lowland areas of the western two-thirds to the steep slopes and undulating ridgeline east of Horse Ranch Creek to Monserate Mountain;
- Grasslands on the lowlands;
- Orange and avocado groves at the middle elevations;
- Expanses of natural open space up to the ridgeline of Monserate Mountain; and
- Rocky outcrop of Rosemary's Mountain, which lies south and adjacent to the Project Site.

The Project Site is framed by the summits of Monserate Mountain and Rosemary's Mountain, both of which lie off-site to the northeast and south, respectively. Rosemary's Mountain dominates the visual pattern of the visual environment (or viewshed) that includes the Project Site. Its rocky outcrops, large bulk and height, and steep slopes distinguish it from the gentler Monserate Mountain. The descending ridgeline of Monserate Mountain transects the northeastern portion of the Project Site, and creates a prominent backdrop for the groves that are nestled on the hillsides. A total of 48 percent of the Project Site, or about 187 acres, contains slopes in excess of 25 percent, 180.33 acres of which are RPO-classified (Figure 2.1-1).

The size relationship of the various Project Site landscape components is balanced. The color and texture of the Project Site move in and out of light and dark hues consistent with the vegetation. The vegetation on the hillside changes from pale grasslands and low native plant communities to dense, darker avocado groves on the

steep slopes descending into the more open, lighter, and regular pattern of the orange groves on the less steep slopes. Isolated instances of dark-canopied coastal live oaks also punctuate the ridgeline. This pattern and variation of vegetative elements provides visual diversity and continuity to the visual character of the Project Site.

Visual Quality

The summits of Rosemary's Mountain and Monserate Mountain frame the Project Site, creating a vivid impression. The open view of the hillside orchards, both orderly in the orange groves and unkempt in the avocado groves, creates the most lasting impression after the mountains that define the area. The natural and man-built elements of the landscape are highly integrated and coherent, creating a compositional harmony of the landscape as a whole. Because the on-site man-made structures are generally obscured from view by the vegetative elements, the integrity of the existing visual quality of the Project Site as a whole is high. The vegetation, both grasslands and agricultural groves, is in harmony with the natural vegetation, creating a high degree of unity within the Project Site.

The Visual Impact Assessment in Appendix C-1 contains a detailed assessment of the visual quality of the Project Site and identifies areas that share consistent visual characteristics (subsets of a viewshed). For each of these areas, Appendix C-1 provides a visual quality and sensitivity to change rating. To summarize, the Project Site contains areas of low to high visual quality and sensitivity to change. The upper ridgelines and lower riparian corridor are considered to have high visual quality and sensitivity to change, while the hillside and lower groves are considered to have moderate visual quality and sensitivity to change. The northern pasture, ranch house, and upper and lower meadows are considered to be of low visual quality (refer to Appendix C-1).

Public Viewshed

Appendix C-1 delimits a generalized viewshed, the surrounding geographic area from which the Project Site is likely to be seen. The Project Site viewshed is generally confined to the area within the ridgelines that surround the I-15 corridor and define the river valley (refer to Figure 6 of Appendix C-1). Within this viewshed are the existing residential areas west of I-15 and Old Highway 395, Lake Rancho Viejo subdivision south of the Project Site, and a cluster of homes in the hills north of the Project Site. Existing commercial development occurs in the vicinity of the I-15/SR-76 interchange, and public recreational trails exist in portions of Monserate Mountain east of the Project Site, along the San Luis Rey River south of the Project Site, and within the Engle Family Preserve west of I-15. In addition to residents and public trail users, motorists on public roadways (including I-15, Old Highway 395 and SR-76) have variable visibility of the Project Site, depending upon their location.

To assess the visibility of the Proposed Project from surrounding vantage points, several field surveys were conducted and Key Observation Points (KOPs) identified in the technical assessment (see Appendix C-1). The KOPs and photographic simulations are discussed further in Section 2.1.3, Analysis of Project Effects.

2.1.2 Guidelines for the Determination of Significance

For the purpose of this EIR, the basis for the determination of significance is the CEQA Guidelines Appendix G the County of San Diego Guidelines of Significance for Visual Resources, adopted July 30, 2007, and the County of San Diego Guidelines of Significance for Dark Skies and Glare, adopted July 30, 2007 (modified January 15, 2009). Specifically, Guidelines 1 and 2 are derived from the CEQA Guidelines Appendix G and are intended to support definition of whether the Proposed Project will have a significant impact on visual character and quality. Guideline 3 is based on these principles as the Scenic Highway Element and Fallbrook CP. Guidelines 4 and 5 rely on the lamp and shield requirements established in the San Diego County Light Pollution Code that have been determined to effectively reduce impacts on dark skies. Guideline 6 is taken from the San Diego Guidelines of Significance for Visual Resources and is intended to assure that the visual character and quality of communities are developed consistently with all applicable regulations.

A significant impact to visual resources would occur as a result of project implementation if:

1. The project would change the composition of the visual pattern or character of the visual environment, and the change would be incompatible with the existing visual character in terms of dominance, scale, diversity, and continuity.

2. The project would result in physical changes that would substantially degrade the quality of an identified visual resource, including but not limited to, unique topographic features, steep slope lands (as defined in the County's RPO), ridgelines, undisturbed native vegetation, surface waters and major drainages, public parks, or recreational areas.

3. The project would result in physical changes (i.e.: land disturbing activities) to the visual environment that would demonstrably and adversely affect the viewshed of a designated scenic highway, scenic vista, or the I-15 Corridor Subregional Plan Area.

4. The project would install outdoor light fixtures that do not conform to the San Diego County Light Pollution Code (Sections 59.108-59.110) lamp type and shielding requirements and County Zoning Ordinance.

5. The project would install highly reflective building materials, including but not limited to reflective glass and high-gloss surface color in areas that will be visible along roadways, pedestrian walkways or in the line of sight of adjacent properties.

6. The project would not comply with applicable state or local goals, policies or requirements related to visual resources, including but not limited to the California Scenic Highway Program, San Diego County Scenic Highway Program, San Diego County General Plan, (Scenic Highway Element, Open Space Element), Fallbrook CP including the I-15 Corridor Subregional Plan and Scenic Preservation Guidelines, San Diego County Zoning Ordinance (Scenic Area and Design Review Area regulations), and the RPO and Hillside Development Policy.

2.1.3 Analysis of Project Effects and Determination as to Significance

Change in Visual Pattern or Character (Guideline 1)

A significant visual impact would occur if implementation of the Proposed Project would result in a change in the composition of the visual pattern or character of the visual environment, and the change would be incompatible with the existing visual character in terms of dominance, scale, diversity, and continuity. If the Proposed Project were to introduce features that would detract from or contrast with the existing visual pattern of the community (in terms of dominance, diversity, continuity), or with its important visual elements (such as color, massing, density, architectural style, building materials), visual impacts would be considered significant.

As described in the following paragraphs, the introduction of Proposed Project features into the existing landscape would change the line, form, pattern, and visual harmony of the existing setting. The visibility of large manufactured slopes, some in excess of 100 feet in height, would contrast with the existing pattern elements. The repeating patterns, lack of diversity, scale, and density of the Proposed Project would contrast with the existing agricultural and rural setting.

These contrasts, however, would be reduced through the incorporation of site planning, architecture and landscape guidelines contained in the Meadowood Specific Plan Amendment, which would be required for site development, as described below.

Community Design

The Community Design Element of the Meadowood Specific Plan Amendment (Appendix C-2) contains policies for the protection of existing scenic resources, insurance of continued visual compatibility, and promotion of a cohesive community design theme for all common areas including streets, parks, entries, and open space areas. This Element of the Meadowood Specific Plan Amendment would promote the creation of a visually unified and attractive community that preserves and enhances the natural resources and maintains the unique visual features of this area. The Community Design Element addresses the following objectives:

- Preservation of the scenic qualities of the San Luis Rey River viewshed
- Preservation of the scenic qualities of the I-15 Corridor and the Fallbrook CP viewshed through application of the “B” Special Area Designator, related to potential visual impacts of the Proposed Project
- Design parameters for all common areas to establish project design consistency among the various planning areas (neighborhoods) of the Proposed Project, including streetscapes, entries and landscaping
- Design policies addressing a wide range of community design issues such as trails, roads, open space areas, signage and lighting

The Community Design Element includes Community Design Guidelines, which address visual quality aspects of the proposed common areas, include streetscape, entry treatments, pedestrian circulation, lighting, signs and landscaping. The guidelines, included in Section 8.6 of the Meadowood Specific Plan Amendment shall be considered

in the review of discretionary permits for development projects within the Project. In addition, Site Plan review will be required per the "B" Special Area Designator. The policies dictated by the Meadowood Specific Plan Amendment Community Design Element would be carried out through site planning, architecture, and landscape design.

Site Planning

The site design of the Proposed Project demonstrates sensitivity to both the natural setting and to the neighborhood context. Minimal ridge line development is proposed; existing groves and the trees along the primary and secondary roadways would be conserved; existing hiking and horse trails have been incorporated; and hillside development is limited with minimal development located in steep sloped areas of the Project Site. Additionally, 49.3 acres of the site would remain in groves, and the most visual single-family area would follow the natural topography with curved streets to minimize graded slopes.

Architecture

Architecture would be varied to prevent "sameness," but would be compatible throughout the community to establish a common identity. The buildings would be limited to two stories with a 35-foot maximum height limit. The roof lines, shadow patterns, and architectural detailing would be offset to provide relief and visual contrast. Roofs and facades would be earth-toned to blend with the existing environment.

Landscape Design

The landscape character of the area would be incorporated into the design of the Proposed Project. The conceptual landscape plan is shown on Figure 1-9 and the Community Design Element (Appendix C-2) includes detailed landscaping features to be incorporated into the Proposed Project. Extensive landscaping of foreground slopes and streetscapes would buffer the Project Site from view. Trees, shrubs, and plantings that are compatible to the rural and natural setting of Fallbrook's agricultural heritage would be used. Landscaping would be implemented on all of the graded slopes to minimize the impact of the development proposed on the hillsides. The signage proposed would be limited to the entrance to the site, and smaller entrance signage to each of the Planning Areas. Special landscape lighting would be limited to key areas and would be carefully controlled.

Implementation of the landscape plan would reduce visual impacts by screening parking lots, buildings, lighting fixtures, and manufactured slopes. In addition, the design guidelines designate that a maintenance easement be placed on the manufactured slopes within common area maintenance lots, visible from the I-15 and Old Highway 395 corridors. The HOA would have the responsibility to maintain the installed landscaping along these slopes.

Grading and Manufactured Slopes

At the lower elevations, substantial amounts of grading would be required to implement the Proposed Project. Implementation of the proposed grading plan (refer to Figure 1-10) would require approximately 2.4 million cubic yards of balanced cut and fill. This earthwork volume would include the creation of several manufactured slopes of

approximately 28 to 110 feet in height, as shown in Figure 2.1-2. While the upper, ungraded slopes of Monserate Mountain and the landform shapes of Monserate and Rosemary's Mountain summits will continue to dominate and set the character of the area, the height of the proposed manufactured slopes would exceed the current dominant on-site landform and could contrast with the existing visual character.

Figure 2.1-3 provides a key map showing the location of six representative cross sections that illustrate the proposed grading, including several of the manufactured slopes. The six cross sections are shown in Figures 2.1-4 through 2.1-6. Cross section A, drawn from SR-76, illustrates that a portion of the Project Site would need to be filled to raise the ground level above the Horse Ranch Creek floodplain. The realigned SR-76 would be similarly raised. Therefore, the grading required within this portion of the Project Site would not be highly visible. However, slopes of a maximum of 10 feet in height would remain visible. As part of the Proposed Project design, these slopes would be softened in appearance with naturalized plantings and screened by foreground canopies of grove trees. Grading visible from SR-76 along the southwestern edge of the Project Site would be screened by existing off-site riparian vegetation.

Cross section B illustrates another typical view from SR-76 looking northeast toward the Project Site (see Figure 2.1-4). As this figure illustrates, the southern multi-family residential area (PA-1) would be located on the flatter portion of the Project Site, behind and slightly above the adjoining riparian area. The dense foreground of riparian vegetation would combine with foreground topography to visually buffer this multi-family area from view.

Cross sections C and D illustrate grading profiles or typical views from I-15 where relatively unrestricted views of the Project Site would be available (see Figure 2.1-5). From these locations, there would be open views of the single-family development area trending upslope, as well as the multi-family area on the flatter portion east of Horse Ranch Creek Road and Street B. Views of the housing in the finger canyons would be blocked by existing vegetation located east of I-15. The current contiguous pattern of grove plantings would become interrupted by residential structures and graded slopes. Views along the I-15, however, would be intermittent, as there is existing vegetation and berming along the eastern edge of the freeway that interrupts the line of sight into the Project Site. The visibility of the Proposed Project elements would be further reduced through incorporation of architectural and landscaping features that would screen or soften their appearance. Additionally, the existing avocado groves upslope would be conserved.

While manufactured slopes would be visible from I-15, they would be planted with shrubs and trees that would provide visual screening. The landscaping required by the design guidelines would effectively reduce any potentially significant effect associated with these slopes, as it would introduce a softening vegetative element. The dominant background viewshed components, such as the steep upper slopes and prominent ridgelines, would not be affected by the Proposed Project; except for the inclusion of the water tanks and access road (see Guideline 2 discussion.)

Cross section E and F are shown in Figure 2.1-6. Cross section E represents a typical view that would be experienced from the adjacent Campus Park project to the west. Cross section F shows a view of the Project Site from the south, including the proposed WWTP. As shown, this facility would be approximately 10 feet above the grade of the

adjacent SR-76/Pala Road and would be visually screened by a six-foot noise barrier, trees with mature heights of 22 to 30 feet, and slope plantings. The PA-1 multi-family area, as shown in Cross section F, lies approximately 120 feet north and five feet below the adjoining WWTP. Slope trees and landscape plantings internal to PA-1, in conjunction with foreground plantings along SR-76 and view blocking riparian vegetation to the west, would provide a visual buffer to viewers traveling on SR-76.

Overall, implementation of the Community Design Guidelines of the Meadowood Specific Plan Amendment requires manufactured slopes to be graded to follow the contours of existing topography, thus softening their appearance by relating to the pattern character of the steep backdrop of the Monserate Mountains. Additionally, landscaping of the manufactured slopes will blend their appearance with the nearby groves and steep, vegetated natural hillsides allowing potential visual impacts to be **less than significant.**

Structures and Roadways

Initially, the repeating patterns, lack of diversity, scale and density of the Proposed Project would contrast with the existing agricultural and rural setting. These changes, however, would be minimized through incorporation of appropriate architecture and the Community Design Guidelines described above.

Visual simulations (Figures 2.1-20 through 2.1-27) provide a representation of how the structures will affect the visual character of the surrounding area. Actual homes will be varied in shape and height, thus the simulations provided represent 'worst-case' scenarios, depicting homes of similar shape and height. The roof lines, shadow patterns, and architectural detailing have been offset to provide relief and visual contrast. Roofs and facades will be earth-toned to blend with the existing environment. Through adherence to the Meadowood Specific Plan Amendment architecture and design guidelines, project impacts from structures and roadways would be **less than significant**.

Short-term Construction Impacts

Visible construction activities during Proposed Project build-out would contrast with existing conditions due to removal of existing vegetation and the introduction of new, visually dominant elements such as cut or fill slopes, construction fencing, construction equipment, and construction materials stockpiling and storage. Construction activities would disrupt the existing visual character of the project area, but would be typical of other developments of this size. Landscaping would be installed subsequent to each construction phase, lessening the adverse visual effects of grading activities and screening the construction. Although street trees and internal landscaping, when mature, would help buffer the homes from views to the Proposed Project, this would not be the case in the short-term. While temporary in nature and addressed through project design over the long-term, short-term construction related visual impacts would be **significant (A-1).**

In summary, the Proposed Project would relate in color, form, texture, and line to the existing visual environment through implementation of the Community Design Guidelines included in the Meadowood Specific Plan Amendment. Specifically, site planning, architectural guidelines, and landscape plan, are proposed as part of the project.

Although short-term construction impacts would be **significant**, the Proposed Project's introduction of manufactured slopes, housing, and streets into the existing composition of the visual environment would, in the long-term, not detract from or contrast with the existing visual character and impacts would be **less than significant**.

Change in Quality of Visual Resource (Guideline 2)

A significant visual impact would occur if the project would result in physical changes that would substantially degrade quality of an identified visual resource, including but not limited to, unique topographic features, steep slope lands (as defined the County's RPO), ridgelines, undisturbed native vegetation, surface waters and major drainages, public parks, or recreational areas.

Valued visual features identified within or near the Project Site include RPO-classified steep slopes, natural habitat and the I-15 designated scenic view corridor, which consists of the peaks, ridgelines and rock outcroppings of the Monserate Mountain range, Rosemary's Mountain, and Lancaster Mountain. (The effects of the Proposed Project on the I-15 scenic view corridor are addressed under Guideline 3, public views.)

RPO-classified steep slopes are located in the north and eastern area of the Project Site (refer to Figure 2.1-1). These slopes include undisturbed native vegetation and several prominent ridgelines. The Proposed Project would preserve the steep slopes and nearly all of the ridgelines; the exception being a non-visually prominent 574-foot section of ridgeline where proposed water tanks and associated access road would be located. The Proposed Project encroachment into RPO-classified steep slopes would be limited to 16.26 acres or nine percent of steep slopes contained on-site, as shown on Figure 2.1-7.

The proposed water tanks would occupy the saddle ridge between Rosemary's Mountain and the Monserate Mountains. While visible from directions directly west and northwest of the project, the water tanks would be partially buried below natural grade and would be screened by intervening topography (Rosemary's Mountain) to the south and existing and proposed vegetation to the north, wets and east. Refer to the cross sections in Figure 2.1-5 for an illustration of the proposed grading and site design of the water tanks. The water tanks would also be painted in earth tones to blend into their surroundings. Therefore, the construction of the water tanks would not significantly degrade the visual quality of these valued resources.

Likewise, the fire access road would be visible from several residences located east of the Proposed Project. The fire access road will vary in width from 20 feet to 24 feet and while the road would contrast with the existing patterns of vacant land, the background of mountains and hills would be retained. Therefore, changes to the views from the residential homes would not change the dominant backdrop of ridgelines, steep natural slopes and groves.

The Proposed Project includes conservation of 122.4 acres of existing natural habitat as permanent open space, as well as sensitive grading, clustering of homes, conservation of major drainages and 49.3 acres of the existing groves which all contribute to the retention of visual resources. Therefore, project impacts to the quality of the existing visual resources would be considered **less than significant**.

Change in Visual Environment of Scenic Highway or Scenic Vista (Guideline 3)

A significant visual impact would occur if the project would result in physical changes (i.e. land disturbing activities) to the visual environment that would demonstrably and adversely affect the viewshed of a designated scenic highway, scenic vista, or the I-15 Corridor Subregional Plan Area.

The Proposed Project has a high number of potential viewers within its viewshed, including motorists on public roadways, hikers on public trails, and area residents and merchants. The following discussion summarizes the results of a detailed assessment of the viewers and views from numerous locations within the viewshed. Figure 2.1-8 shows the locations of 21 KOPs, including the eight selected for photographic simulations of Proposed Project conditions. Views from these valued public KOPs are provided in Figures 2.1-9 through 2.1-19 and discussed below. Photographic simulations from eight of these KOPs are provided in Figures 2.1-20 through 2.1-27 and are discussed below.

Public Roadways

I-15 is a County designated Third Priority Scenic Route and a State "Eligible" Scenic Highway. The Project Site is also located within the I-15 Corridor Subregional Plan area. While the Project Site is not immediately adjacent to I-15 (it is located approximately 1,800 and 3,000 feet from the freeway), it does fall within the I-15 Corridor Plan viewshed. Eight KOPs were selected for view simulations. The KOPs depict views from several locations along the I-15 scenic view corridor showing the developed and landscaped Proposed Project relative to the existing conditions (see Figures 2.1-20 through 2.1-27).

Simulated viewpoints provided as Figures 2.1-20 and 2.1-21 look northeast toward the Project Site from locations east of I-15 near the SR-76 (Pala Road) intersection, approximately 3,200 feet from the Project Site's southern boundary. As these simulations demonstrate, extensive views of the Project Site are not available from this area due to view blocking vegetation and topography; however, portions of the Proposed Project's terraced single-family development would be visible, contrasting moderately with the retained grove vegetation. Views of the Proposed Project's southernmost single-family development area would be blocked by Rosemary's Mountain, visible in the middle-ground right. Views toward the Project Site's multi-family areas would be substantially screened from view by intervening tall riparian vegetation and topography. Landscaping proposed to screen the Proposed Project's on-site WWTP in the southernmost portion of the Project Site would also serve to screen views from this location. While the upper single-family residential development areas of the Proposed Project would be partially visible, along with tall manufactured slopes, the resulting contrast with existing conditions would be minimized through incorporation of the site planning, architectural, and landscape design guidelines.

Views toward the Project Site also are available from segments of Old Highway 395 generally located between SR-76 and Tecolote Road. Available views are similar to those from I-15, but would include more view-obstructing foreground elements such as the I-15 corridor, the I-15 concrete center barrier, vehicles on I-15, chain-link fences, and vegetation. In addition, similar to existing conditions for motorists on I-15 and SR-76, views of the Proposed Project would be peripheral, and the time a motorist would spend

looking directly at the Project Site would be short-term due to the vehicle's speed and the driver's focus on the road ahead. Simulated viewpoints provided as Figures 2.1-22 through 2.1-24 depict existing and Proposed Project views from different locations on Old Highway 395.

As reflected in Figures 2.1-22 through 2.1-24, the Proposed Project would primarily change the continuity of the existing groves by introducing horizontal patterns of residential development and associated grading, and by introducing suburban elements into a rural and open space landscape. Manufactured slopes, some exceeding 100 feet in height, would also be introduced into the landscape by the Proposed Project.

As the view simulation from above the Lake Rancho Viejo subdivision provided in Figures 2.1-25 shows, the lower portions of the Proposed Project's housing in the finger canyons would be visible from this location, but the proposed housing at the upper elevations in the canyon would be blocked by the foreground topography of Rosemary's Mountain when approaching the Project Site from the south. Landform changes would not be dominant and the Proposed Project would appear consistent with the pattern character of other elements in view. The upper groves and steep natural slopes and ridgelines of the Project Site would remain intact. Contrast with the existing visual environment would be minimized through incorporation of the site planning, architectural, and landscape design guidelines. Public views from I-15 south of the Project Site would thus not be adversely affected.

As the simulations provided in Figures 2.1-26 and 27 depict, distant but observable changes to the existing visual environment would occur to views along I-15 for the southbound traveler. However, as illustrated in the photographic simulation of Proposed Project conditions, the proposed development would not substantially obstruct, interrupt, or detract from existing views because of the incorporation of quality site planning, architectural, and landscape design into the Proposed Project. As illustrated in the post-project photographic simulations, public views from I-15 north of the Project Site would not be adversely affected.

In summary, the Proposed Project has incorporated siting, architectural and landscaping features into its design that would minimize contrast with the existing visual environment and soften or screen dominant elements of the Proposed Project. Adverse impacts to public scenic views from areas roadways would, therefore, be lessened. Design features incorporated into the Proposed Project would preclude substantial obstruction, interruption, or detraction of public views from area roadways, including scenic views within the I-15 scenic view corridor, and impacts would be **less than significant**.

Public Trails

Monserate Mountain Trail, a public hiking trail, is located north and east of the Project Site (refer to Figure 2.1-3). Portions of this trail are included in the County's Trail Master Plan. Although existing views of the Project Site from the Monserate Mountain trail are generally blocked due to topography and grove vegetation, some portions of the trail offer expansive views of the project. In these cases, portions of the Project Site are visible in the middle ground beyond a foreground of native vegetation (see KOP 18, Figure 2.1-17). Views of I-15, other roadways, and existing residential areas are currently visible in background views from this trail.

As depicted in KOP 11, views of the Project Site from the Monserate Trail would be limited at times due to local landforms and view-blocking foreground vegetation. Natural vegetation in the immediate foreground would be retained with project implementation; however, grading associated with the proposed water tank access road improvements would be visible. Areas disturbed during grading would be revegetated with plantings similar to that which lie on adjacent natural slopes. Proposed single-family homes located west of the trail, the nearest one approximately 850 feet away, would be visually screened from the trail by natural vegetation and agricultural groves. A fire safety buffer consisting of low-fuel plantings and thinned native vegetation surrounding these homes would create a transition between the ornamental landscaping within the residential development and the natural vegetation on the slopes surrounding it. Landscaping planted on graded slopes, along roadways, and between residential structures would combine to screen the Proposed Project from view and provide context with the adjacent open space. As a result, project impacts to views from the Monserate Mountain Trail would be **less than significant**.

Another public hiking trail is located in the Fallbrook Land Conservancy's Engle Family Preserve west of I-15 south of Pala Mesa Road (refer to Figure 2.1-3). The Engle Preserve trail provides an extensive, elevated view of the San Luis Rey River Valley and the I-15 corridor, including the Project Site, Lake Rancho Viejo subdivision, and the Monserate Mountains and Rosemary's Mountain in the background (see KOP 19 in Figure 2.1-18). The quantity of viewers here is low due to it being relatively hard to find, and the sensitivity of the views from the trail is moderate to low due to the variety of man-made and natural elements that comprise its views.

Proposed single-family and multi-family residences, parks, roads, parking lots, and the school site would all be visible form the Engle Preserve Trail Street trees and proposed landscaping on the slopes and internal to the project would soften building masses and shield views of streets and parking lots and partially screen buildings. Existing vegetation on the surrounding hillsides and within Horse Ranch Creek would be preserved. Tall graded slopes would be visible, but their impact would be minimized through plantings intended to blend the appearance of the graded slopes with the nearby groves and natural hillsides. For these reasons, project impacts to views from the Engle Preserve Trail would be **less than significant**.

The planned future San Luis Rey River Trail is located south of the Project Site along the south side of the River (refer to Figure 2.1-3). The trail is roughly at grade with the southern portion of the Project Site and current views into the Project Site north of the River are obstructed by riparian vegetation along the River (see KOP 21 in Figure 2.1-19). Only the southernmost portion of the Project Site would be potentially visible. The portion of the Project Site that would be most visible from this trail would be a small portion of the terraced single-family residential area. This area would be extensively landscaped. Surrounding landforms would continue to provide a dominant background and the riparian groves would be retained as visible foreground elements, screening the residential area from view. As a result, impacts to views from the future San Luis Rey River Trail would be **less than significant.**

Light and Glare (Guidelines 4 and 5)

A significant impact would occur if the Proposed Project resulted in failure to conform to the San Diego County Light Pollution Code (Sections 59.108-59.110), proposed outdoor

lighting that conflicts with the light requirements in the County Zoning Ordinance, and/or installed highly reflective building materials. The County of San Diego Light Pollution Code (Division 9) applies to the Proposed Project, and restricts the permitted use of outdoor light fixtures emitting undesirable light into the night sky, which can have a detrimental effect on astronomical research. Light would be generated by the Proposed Project from residences, streetlights, and other exterior lighting during evening hours. The County Light Pollution Code SEC.59.104 defines these as Class II lighting. In addition, Class III lighting (outdoor lighting used for decoration; i.e. patio lights) would also be likely on the Project Site; however, Class III lighting used for holiday decoration is exempt from the Light Pollution Code.

The Project Site is located within Zone B, as it is outside of a 15-mile radius of the Palomar Observatory and the Mount Laguna Observatory. As required for Zone B, the Proposed Project will comply with the SEC.59.105 Requirement for Lamp Source and Shielding of the County Light Pollution Code by using fully shielded low-pressure sodium lamps or other lamp types of 4,050 lumens and below for outdoor lighting. The Proposed Project will also comply with the requirement of the County Light Pollution Code regarding installation of street lights and the guidelines on the use and materials associated with lighting provided in the Meadowood Specific Plan Amendment. By conforming to all regulations and plans, the Proposed Project would not create a new source of substantial light or glare that would adversely affect day or nighttime views in the area, and would not have a detrimental effect on astronomical research. Likewise, lighting impacts from the Proposed Project would be **less than significant**.

Conformance with Visual Resources Regulations (Guideline 6)

A potentially significant impact would occur if the project does not conform to applicable state or local regulations related to visual resources.

As referenced in the Land Use and Planning discussion in this EIR, and detailed in Appendixes C and L, the Proposed Project would comply with all applicable visual goals and policies, including the applicable state and County Scenic Highway policies, the Fallbrook CP and Community Beautification and Design Goals, the I-15 Corridor Scenic Preservation Guidelines, and the County RPO requirements. Table 2.1-1 outlines the Proposed Project's conformance with the I-15 Corridor Scenic Preservation Guidelines. As seen in this table and summarized below, the Proposed Project is consistent with the guidelines. Policies of the Fallbrook CP Community Beautification and Design Goals require the Proposed Project to specifically address preservation of open space, mature trees and significant landforms; proposed signs and architectural styles; grading and slope revegetation; avoidance of steep slopes; the character and layout of roads and parking; and the inclusion of non-motorized trails. The Proposed Project is consistent with all applicable Beautification and Design goals as follows:

Policy 1, Preservation of Mature Trees and Significant Landforms: The Proposed Project would preserve 171.7 acres of existing vegetation in open space, removing no mature trees from biological open space lots. Extensive planting of trees would also occur along roadways and within development areas.

Policy 4, On- and Off- Site Signs: Signs within the Proposed Project would be designed to provide direction without being visually dominant. Style, materials and colors of signs

would reflect the Proposed Project's architecture, including the use of stone to conform to the natural visual elements of the surrounding hillsides.

Policy 6, "Village Style" Architecture: Architectural detailing included in the Proposed Project would be designed to minimize the appearance of building massing, thereby visually reducing the structural scale and creating a "village" feel. "Village style" features would include porches, columns, arcades, overhangs, seating areas and shade trees. Pedestrian connections throughout the Project Site would be encouraged and all streetscapes would be landscaped with sidewalks or trails.

Policy 8, Grading: The majority of the Proposed Project would be located on flatter areas of the Project Site. All manufactured slopes would be landscaped with ground cover, shrubs, and trees to provide visual screening.

Policy 9, Protection of Ridgelines: The Proposed Project will preserve almost all of the ridgelines within the Project Site, except for a non-visually prominent 574-foot section where the proposed water tanks and associated access road would be located.

Policy 10, Development of Steep Slopes: The I-15 Corridor Scenic Preservation Guidelines provide detailed standards for development within the corridor. They specifically require that hillside development be integrated with existing topography and landforms. Areas of steep topography, tree stands, hillside agriculture activity and rock outcroppings are to be respected and preserved.

The Proposed Project is also consistent with the preservation goals of the Circulation Element of the Fallbrook CP. Pursuant to Goal 4 as a whole, and specifically Policy 4.1, the Proposed Project includes landscaped parkways, sidewalks and/or rural, multi-use trails adjacent to Horse Ranch Creek Road. Additionally, the Horse Ranch Creek Road streetscape would include oaks and sycamore trees, as well as post-and-rail fencing to echo the rural history of the Project Site. Local roads throughout the Proposed Project would include large canopy shade trees, and plantings expressing seasonal beauty of the region. Additionally, existing groves would be conserved to provide seasonal interest along roadways.

The Proposed Project is also consistent with the steep slope section of the RPO. As shown in Figure 2.1-7, the Proposed Project's nine percent (approximately 16.26 acres) encroachment into RPO-classified steep slopes would be limited to small areas, primarily along the periphery of the development area in the northeast. This encroachment would not exceed the allowable limits of the RPO. Almost 100 percent of the ridgelines would be preserved. (This issue is discussed further under Guideline 2).

In conclusion, the Proposed Project would conform with all applicable state or local regulations related to visual resources. Therefore, impacts associated with non-compliance would be **less than significant.**

2.1.4 Cumulative Impact Analysis

Table 1-7 provides a complete list of cumulative projects within the vicinity of the Project Site. The specific cumulative study area for aesthetic impacts is comprised of the Project Site's viewshed. The viewshed is defined as that surrounding geographic area from which the Proposed Project is likely to be seen, based on topography and land use

patterns. The viewshed boundary for the Proposed Project was determined through the analysis of aerial photographs and topographic maps, and was field verified by Development Design Services & Graphic Access, Inc.

The Proposed Project viewshed is generally confined to the areas located within the ridgelines that surround the I-15 corridor and that define the San Luis Rey River valley. The ridge lines of the Monserate Mountains comprise the eastern boundary while the hillsides west of the I-15 delineate the western boundary. The southern and northern viewshed boundaries are defined by the peaks that spanned the West Lilac Road bridge to the south and the hills leading upwards to Mission Road to the north. Table 1-7 lists the projects used in assessing cumulative impacts. Of the 96 development projects listed in Table 1-7, 35 lie within the Proposed Project's viewshed and were included in the assessment of cumulative impacts. These projects are depicted graphically in Figure 2.1-28. The projects included within the Proposed Project's viewshed range in size from one to 1,244 residential dwelling units, as well as commercial and retail business, a college campus, hotel, offices, parks, and an elementary school. A cumulative aesthetic impact would result if the Proposed Project, along with projects within the cumulative study area, would result in an overall change in the visual character of the viewshed. Of the 35 projects analyzed, approximately 16 are minor residential subdivisions, proposing between one to seven new single-family residences, located generally west of the Project Site. These residential subdivisions would be located within existing neighborhoods at higher elevations than the Proposed Project and would visually blend into the existing character of the viewshed. Approximately six cumulative projects propose 10 to 51 single-family residences. A majority of these projects propose to create large lots with similar characteristics to the existing rural residential development in the area. Also located at higher elevations than the Proposed Project site, these projects would visually blend with surrounding land uses. Proposed condominium development near the existing Pala Mesa Resort would also not be highly visible in conjunction with the Proposed Project because existing trees and vegetation would screen views between the resort and the Project Site. Likewise, the proposed expansion of existing facilities at the Pala Mesa Resort and the addition of new hotel rooms would be screened from views due to existing and proposed new landscaping. The proposed addition of commercial buildings to an existing commercial site would not result in major visual changes because the visual elements of the area would remain the same.

Four of the projects within the study area are multiple-land-use developments. Three of these, Campus Park, Campus Park West and Palomar College, are located west of the Project Site, abutting or very close in proximity. The fourth, Pala Mesa Highlands, is located west of the Project Site. Together, these projects propose the development of 1,613 single and multi-family residences, commercial uses, offices, parks and a college site. These four project sites are comprised of more than 600 acres of currently undeveloped and agricultural lands. Development of these projects combined with the Proposed Project would be visible from area roadways and recreational trails. (Figure 2.1-28)

As a result of these cumulative projects the introduction of a large number of buildings and suburban elements into areas that are currently undeveloped or used for agriculture would create a major change in the existing visual character of the viewshed. This major physical change in composition would result in **significant cumulative impacts (A-2).** Additionally, some or all of the four projects stated above, along with the Proposed Project, would be visible from the proposed San Luis Rey River Trail, the Engle Family

Preserve, and Monserate Mountain Trail. The proposed cumulative projects would create major change to the views from the surrounding areas and the aforementioned trails resulting in a **significant cumulative impact (A-3**).

2.1.5 Mitigation Measures Proposed to Minimize the Significant Effects

Design measures have been incorporated into the Proposed Project that would reduce direct impacts to existing visual character and quality. The design measures incorporated into the Proposed Project include the site planning, architecture and landscape design guidelines of the Meadowood Specific Plan Amendment as described above; however, there is no feasible mitigation available to lessen short-term effects, direct impacts to existing visual character and quality or cumulative effects. Therefore, impacts would be **significant and unmitigable**.

2.1.6 Conclusion

Design measures have been incorporated into the Proposed Project that would reduce direct impacts to existing visual character and quality to below a level of significance. The design measures incorporated into the Proposed Project include the site planning, architecture and landscape design guidelines of the Meadowood Specific Plan Amendment. Implementation of these design measures would ensure long-term application and continuity of landscaping, particularly to manufactured slopes and require that all graded manufactured slopes be immediately landscaped for erosion control and visual screening subsequent to grading activity. Although construction and grading impacts would be short-term, a significant and unmitigated impact is identified; however, these impacts would be eliminated in the long-term through design measures including implementation of the Meadowood Specific Plan Amendment

Direct visual impacts to visual character, visual quality and visual environment, and public views pursuant to Guidelines of Significance 1, 2 and 3 would be less than significant.

Direct impacts to the existing visual environment resulting from light and glare from the Proposed Project are less than significant pursuant to Guidelines of Significance 4 and 5 and do not require mitigation beyond mandatory compliance with the San Diego County Light Pollution Code.

Direct project impacts associated with the attainment of goals and policies applicable to scenic resources, aesthetics and other visual design aspects, is considered to be less than significant in accordance with Guideline of Significance 6. The Proposed Project will conform to guidelines found in the Fallbrook CP and the I-15 Corridor Subregional Plan, Scenic Preservation Guidelines.

While the Proposed Project includes design measures which reduce project-level impacts on visual resources to less-than-significant levels, the overall development in the region would result in a significant cumulative impact. No feasible mitigation is available to reduce the cumulative effect on visual character, or to mitigate the Proposed Project's contribution to a less than significant level. Consequently, the Proposed Project's contribution to this cumulative impact remains significant and unmitigable.

As currently designed, the Proposed Project will allow the County to address some of its current and projected challenges in relation to an increased population that requires affordable housing and diversity of housing types. The Proposed Project and its surrounding area have been targeted in the Draft General Plan Update as a region that could support increased population. The result is that multiple projects are proposing development which will change the existing visual character from rural land usage to urban land usage. Although each project will likely provide design measures, like the Proposed Project, to reduce direct visual impacts, the cumulative visual change in the region is unavoidable. Therefore, significant cumulative impacts will remain. A Statement of Overriding Considerations would be required to be adopted to address this significant and unmitigated impact.

Map Source: Helix Environmental Planning Inc., April 2009

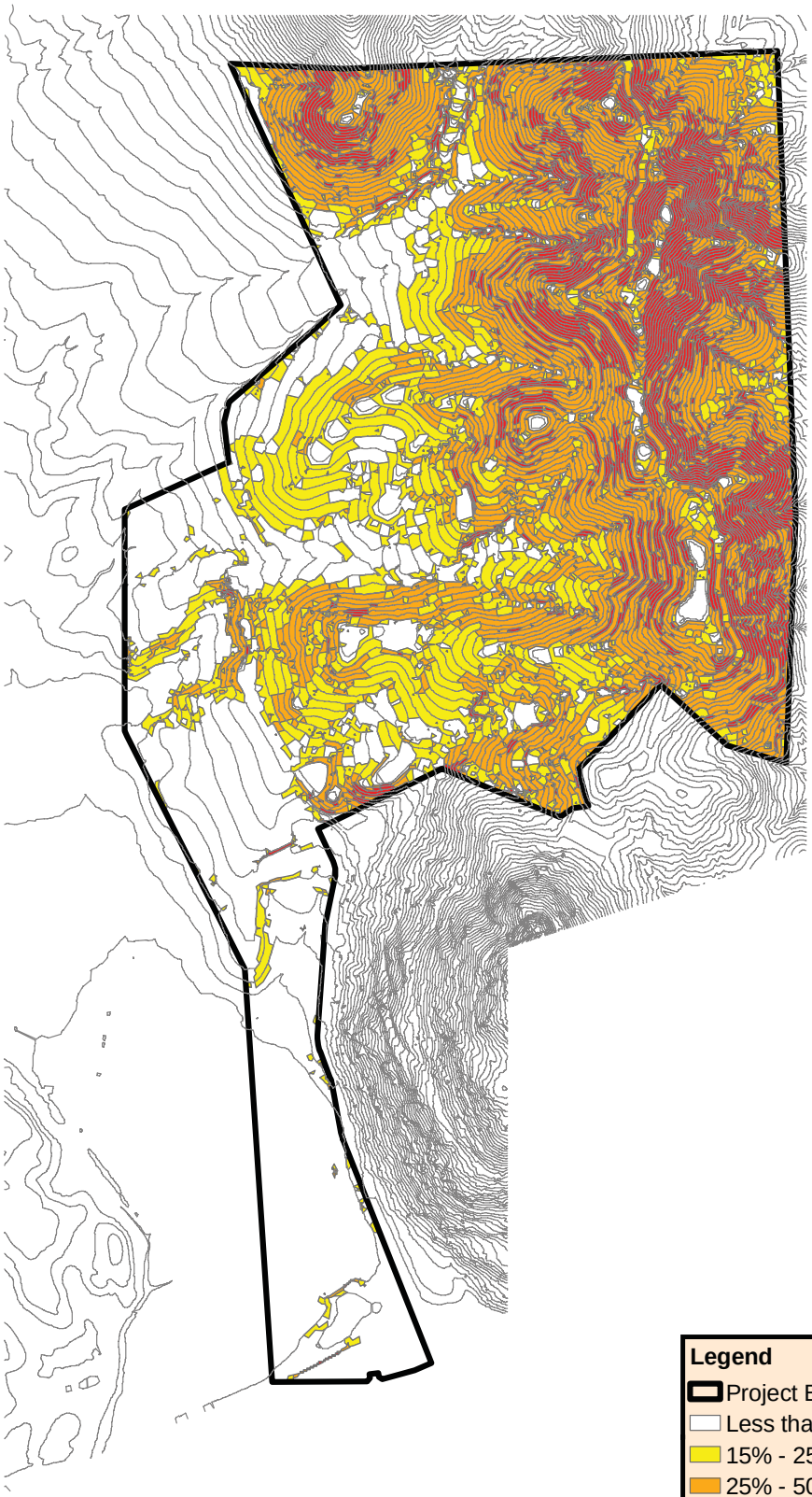

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FIGURE 2.1-1
Steep Slopes

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Map Source: Helix Environmental Planning Inc., April 2009

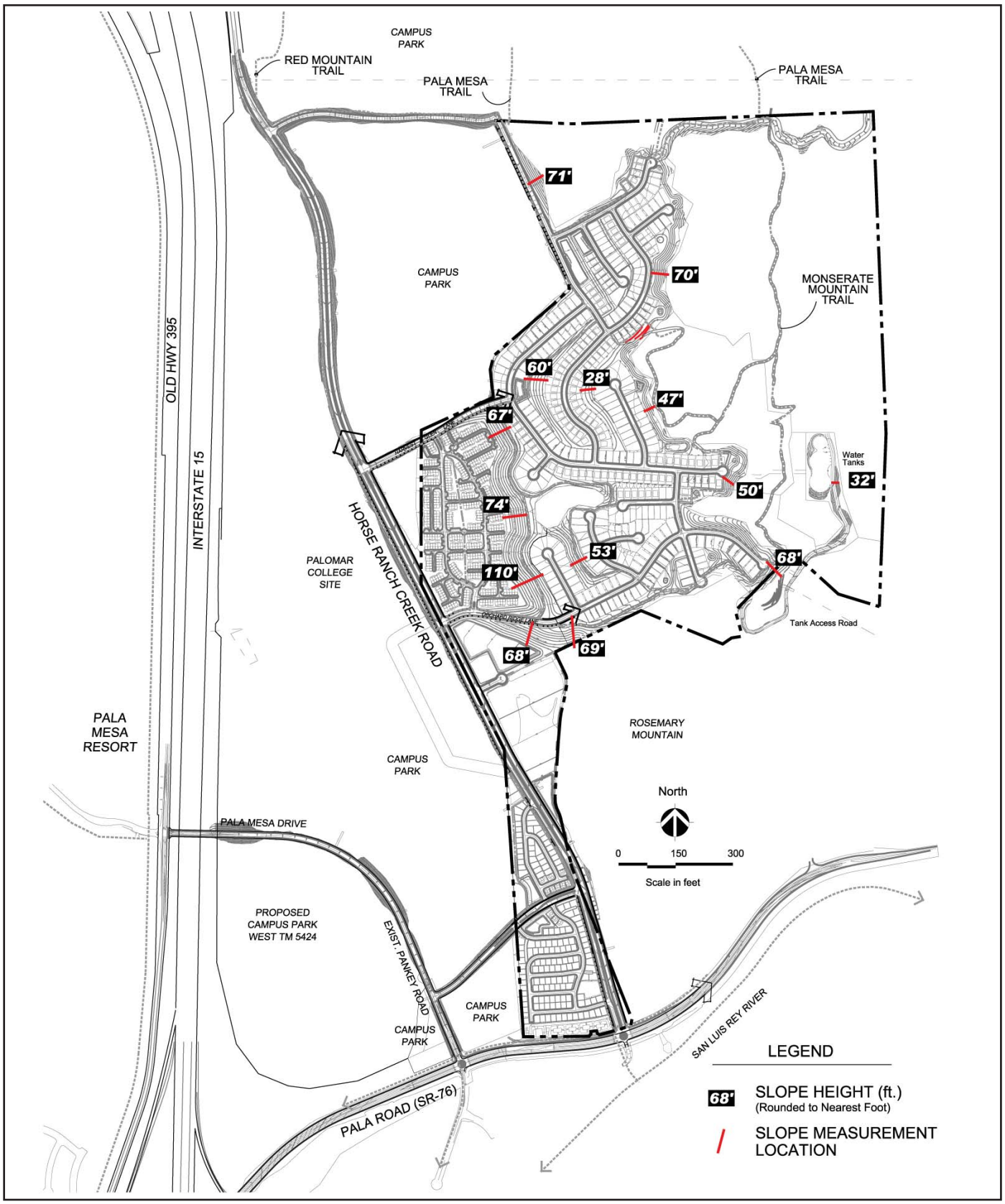

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FIGURE 2.1-2
Manufactured Slope Heights

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Map Source: Development Design Services & GraphicAccess, Inc.

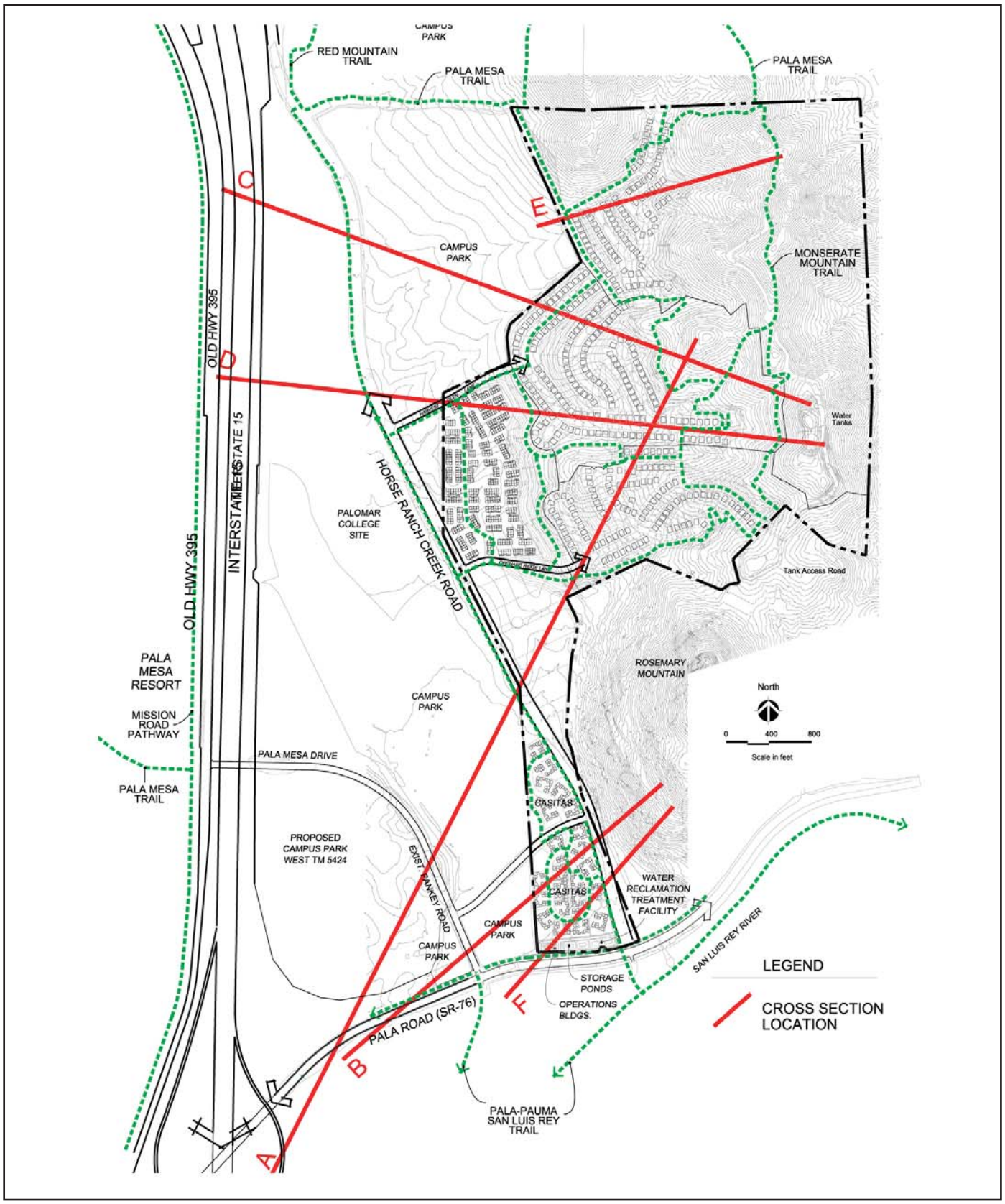

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FIGURE 2.1-3
Cross Section Key Map

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Map Source: Helix Environmental Planning Inc., April 2009

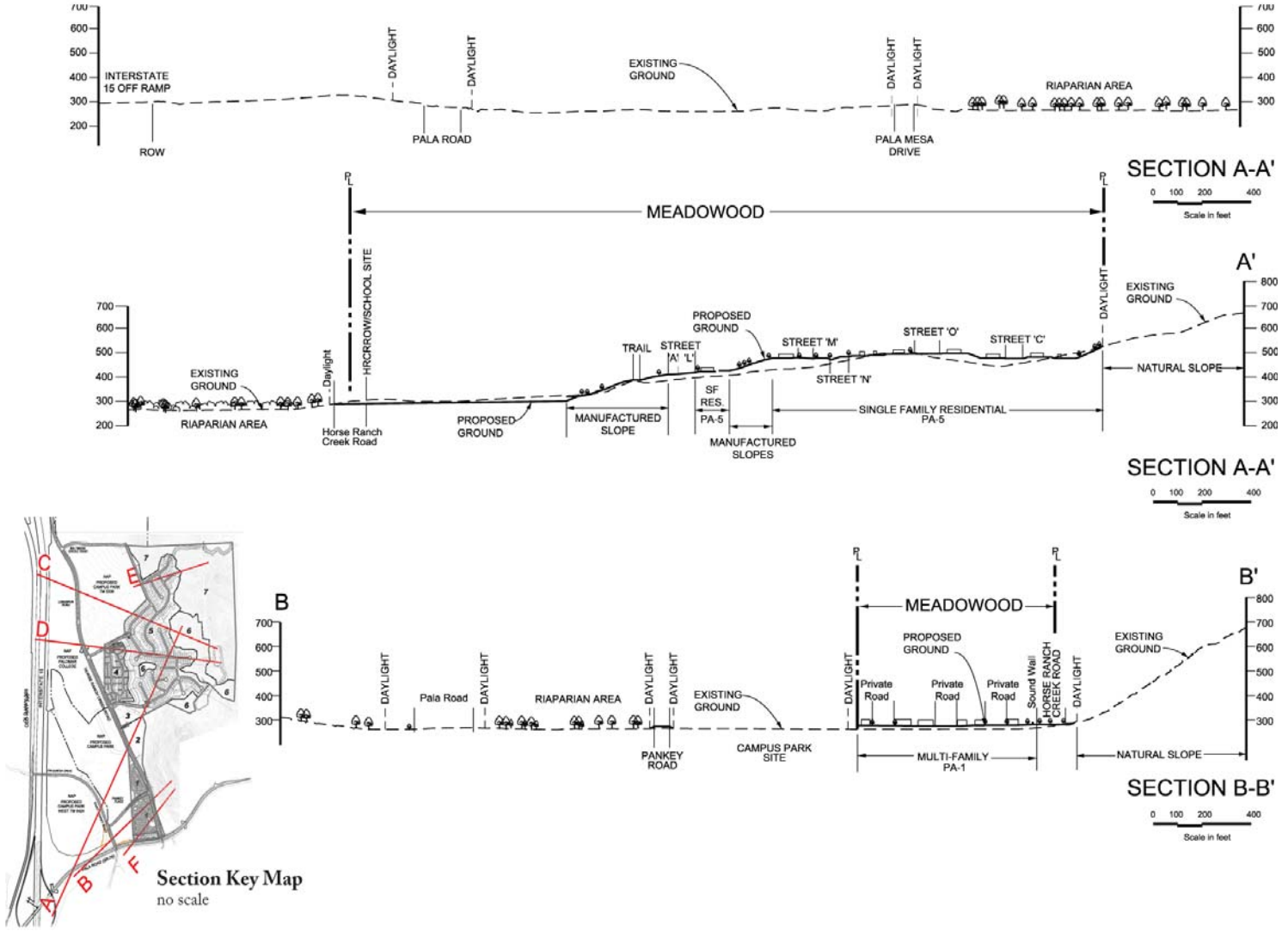

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FIGURE 2.1-4
Cross Sections A & B

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Map Source: Helix Environmental Planning Inc., April 2009

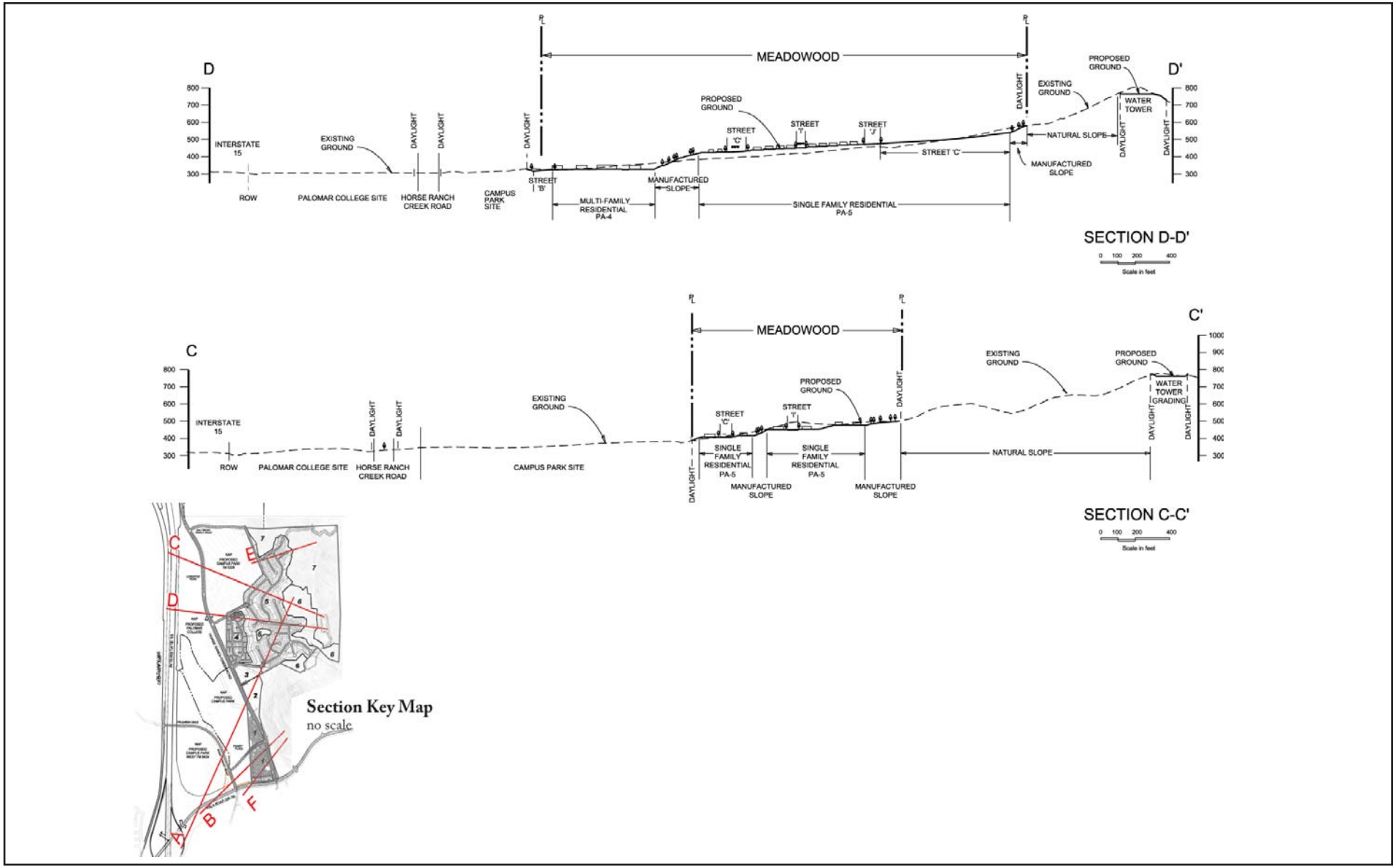

FIGURE 2.1-5
Cross Sections C & D

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Map Source: Helix Environmental Planning Inc., April 2009

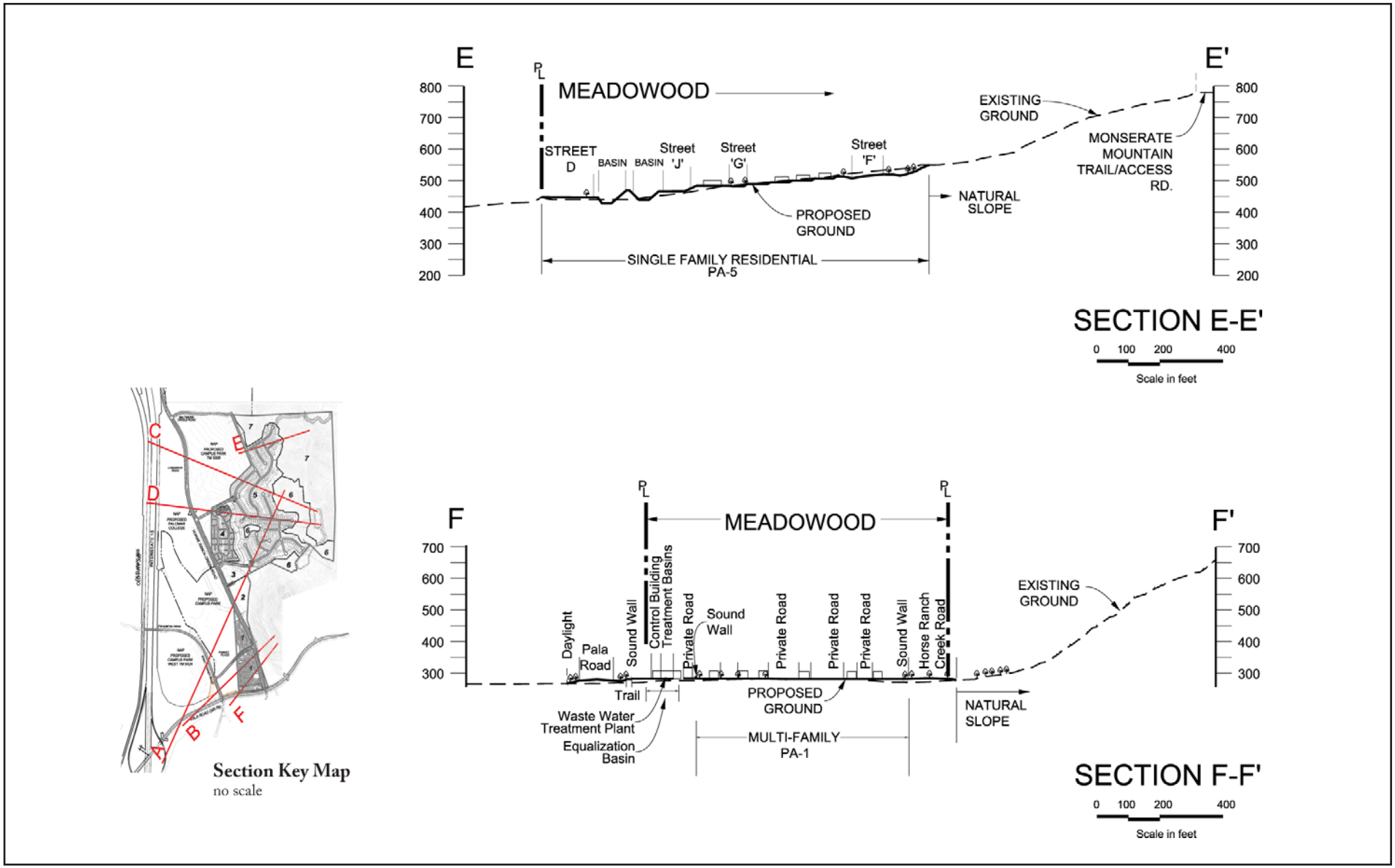

FIGURE 2.1-6
Cross Sections E & F

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Map Source: Helix Environmental Planning Inc., April 2009

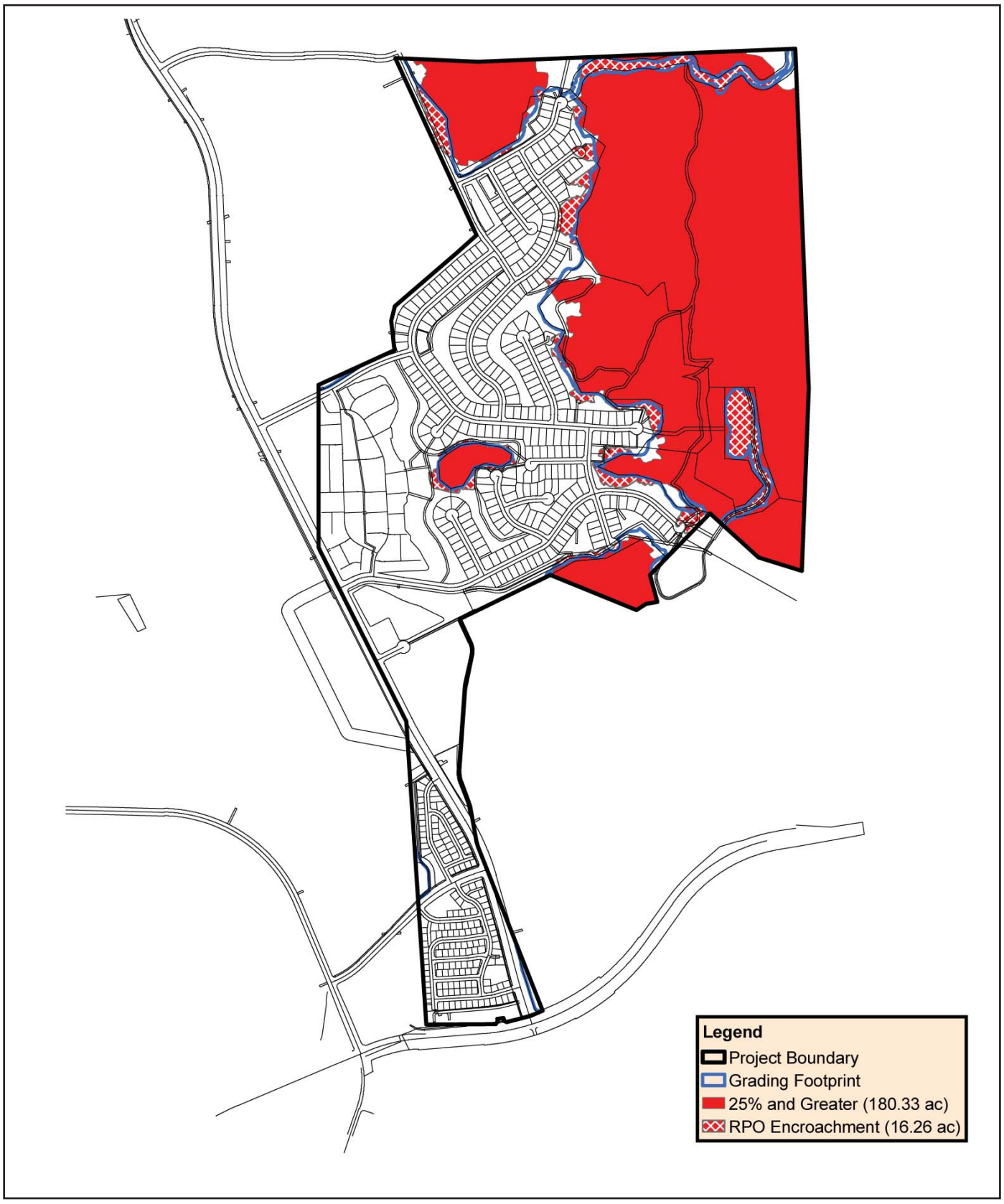

FIGURE 2.1-7
RPO Encroachment

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Map Source: Helix Environmental Planning Inc., April 2009

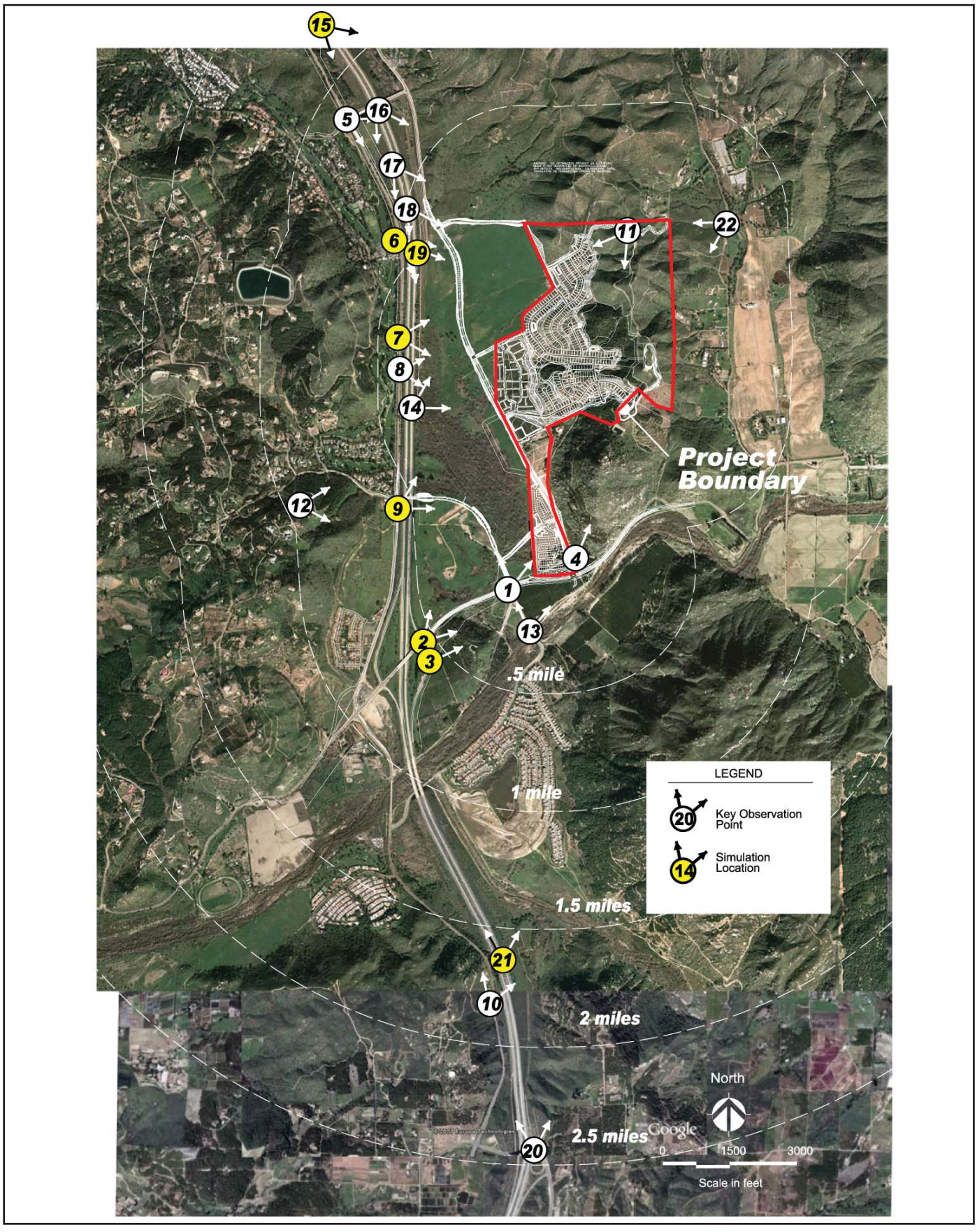

FIGURE 2.1-8
Key Observation Points and Simulation Locations

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Source: Helix Environmental Planning Inc., April 2009

KOP 1 - View from a location on Pala Road near the future Pankey Road intersection, approximately 750' from project.

KOP 2 - View looking northeast from the I-15/Pala Road (SR 76) interchange approximately 1,800' from project.

FIGURE 2.1-9
Key Observation Points 1 & 2

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Source: Helix Environmental Planning Inc., April 2009

KPO 3 - View from a location on the south bound off-ramp of Pala Road and I-15 looking northeast approximately 1,800' from project.

KOP 4 - Looking north from the future Horse Ranch Creek Road/Pala Road (SR 76) intersection

FIGURE 2.1-10
Key Observation Points 3 & 4

RECON

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Source: Helix Environmental Planning Inc., April 2009

KOP 5 - View from intersection of Old Hwy. 395 and Canonita Dr., approximately 1 mile northwest of project.

KOP 6 - View looking east from a location near the Pala Mesa Resort entry and I-15, approximately 3,187' from project.

FIGURE 2.1-11
Key Observation Points 5 & 6

RECON

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Source: Helix Environmental Planning Inc., April 2009

KOP 7 - View from Old Hwy. 395 looking east from a location approximately 2,625' west of project.

KOP 8 - View from a location on Old Hwy. 395 looking east from a location approximately 2,250' west of project.

FIGURE 2.1-12
Key Observation Points 7 & 8

RECON

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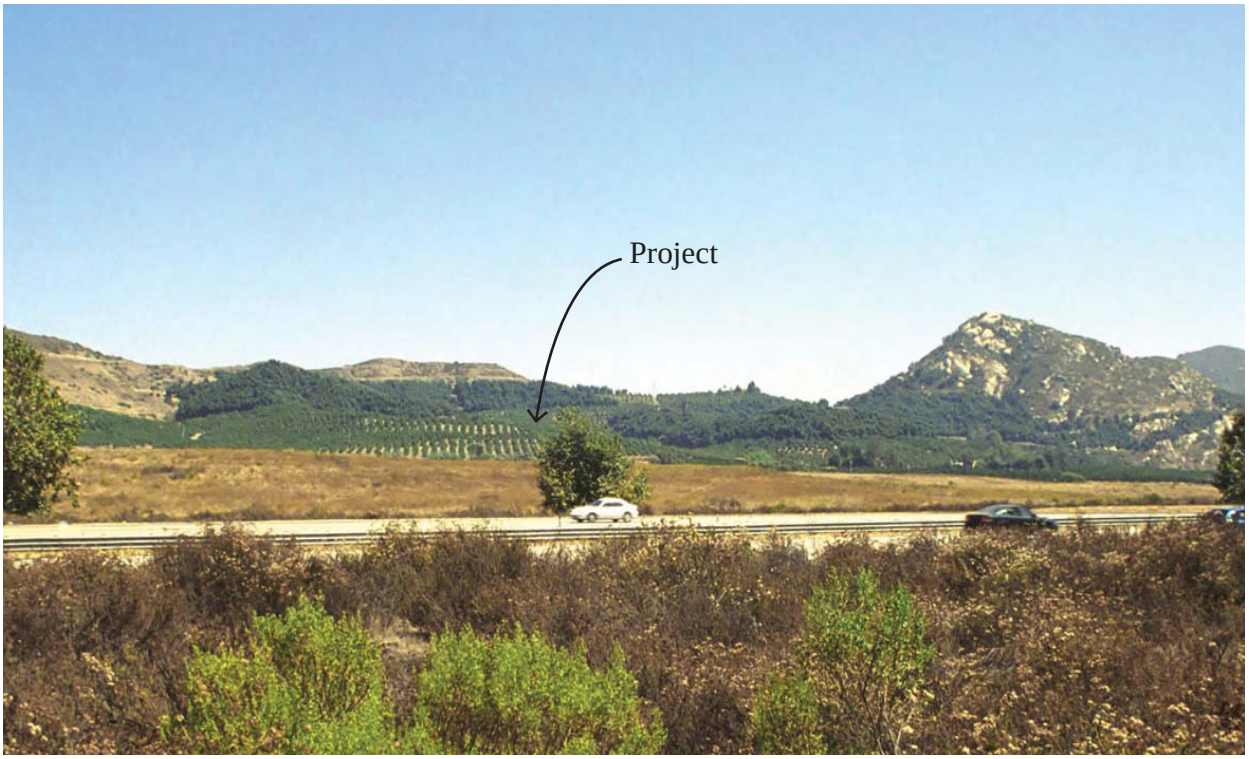
Source: Helix Environmental Planning Inc., April 2009



KOP 9 - View from Old Hwy. 395 looking east from a location near Pala Mesa Drive, approximately 3000' from project.

KOP 10 - View from Old Hwy 395 near the West Lilac Road intersection approximately 1.9 miles from project.

FIGURE 2.1-13
Key Observation Points 9 & 10

RECON

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Source: Helix Environmental Planning Inc., April 2009

KOP 11 - View southwest from a location on the Monserate Mountain Trail.

KOP 12 - View looking east from the Engle Family Preserve, approximately 1 mile from project.

FIGURE 2.1-14
Key Observation Points 11 & 12

RECON

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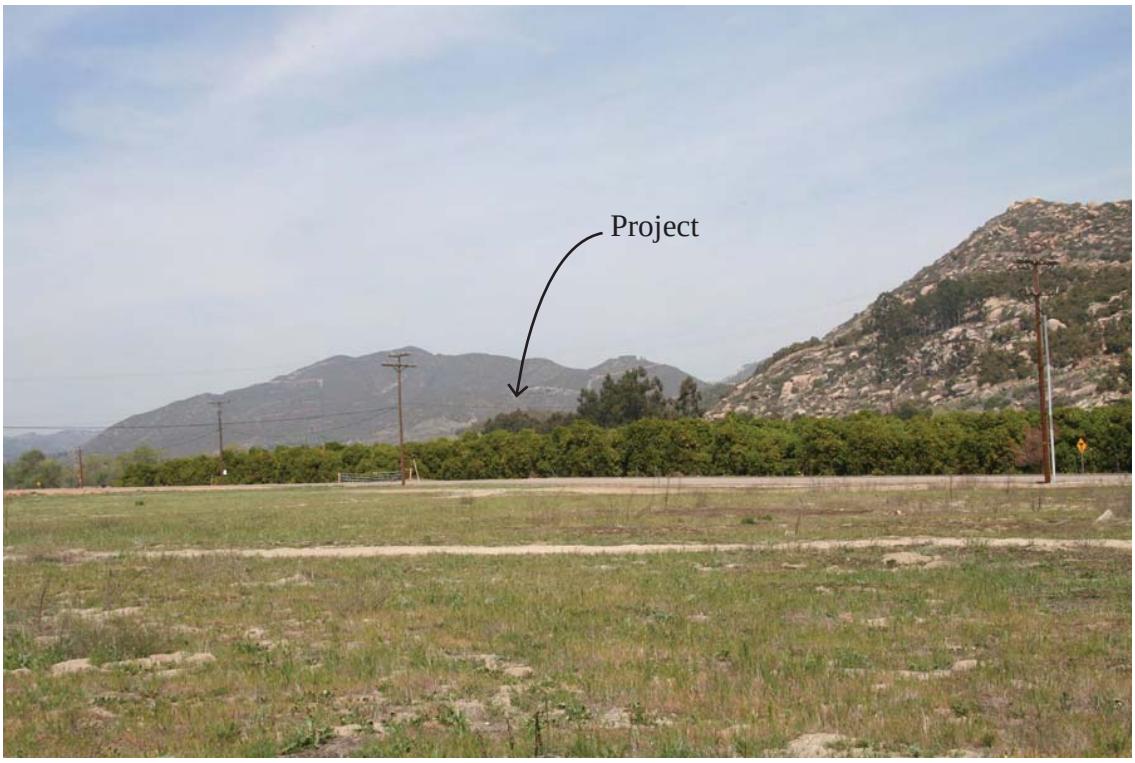
Source: Helix Environmental Planning Inc., April 2009



KOP 13 - View from future location of San Luis Rey River Trail, approximately 1,125' from project.

KOP 14 - View looking east across roadside riparian area, approximately 1,875' west of project.

FIGURE 2.1-15
Key Observation Points 13 & 14

RECON

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Source: Helix Environmental Planning Inc., April 2009

KOP 15 - View southbound on I-15, north of Canonita Dr., approximately 1.2 miles from project.

KOP 16 - View from southbound I-15 near Canonita Dr., approximately .8 miles from project.

FIGURE 2.1-16
Key Observation Points 15 & 16

RECON

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Source: Helix Environmental Planning Inc., April 2009

KOP 17 - View from southbound I-15 looking east toward project from a location approximately .9 miles from site.

KOP 18 - View from southbound I-15 from a location roughly in line with northern project boundary, approximately 3,750' from site.

FIGURE 2.1-17
Key Observation Points 17 & 18

RECON

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Source: Helix Environmental Planning Inc., April 2009

KOP 19 - View looking southeast from the terminus of Pankey Road, south of Canonita Rd., approximately 2,214' from site.

KOP 20 - View from northbound I-15 near Lilac Road, approximately 2.4 miles from project.

FIGURE 2.1-18
Key Observation Points 19 & 20

RECON

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Source: Helix Environmental Planning Inc., April 2009

KOP 21 - View from northbound I-15 north of Lilac Road, approximately 2 miles from project.

KOP 22 - View from the intersection of Rice Canyon Road and Pala Mesa Heights Drive looking southwest toward location of proposed water storage tanks and access road.

FIGURE 2.1-19
Key Observation Point 21 & 22

RECON

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Map Source: VisionScape Imagery, April 2009

FIGURE 2.1-20
KOP 2 Photosimulation – View from Southwest of the Project Siteat I-15/SR-76 Interchange

RECON

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Map Source: VisionScape Imagery, April 2009

FIGURE 2.1-21
KOP 3 Photosimulation – View from Southwest of the Project Site at SR-76 Off-ramp from I-15

RECON

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Map Source: VisionScape Imagery, April 2009

FIGURE 2.1-22
KOP 6 Photosimulation – View from West of the Project Site on Old Highway 395, West of I-15

RECON

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Map Source: VisionScape Imagery, April 2009

FIGURE 2.1-23
KOP 7 Photosimulation – View from Old Highway 395 West of the Project Site

RECON

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Map Source: VisionScape Imagery, April 2009

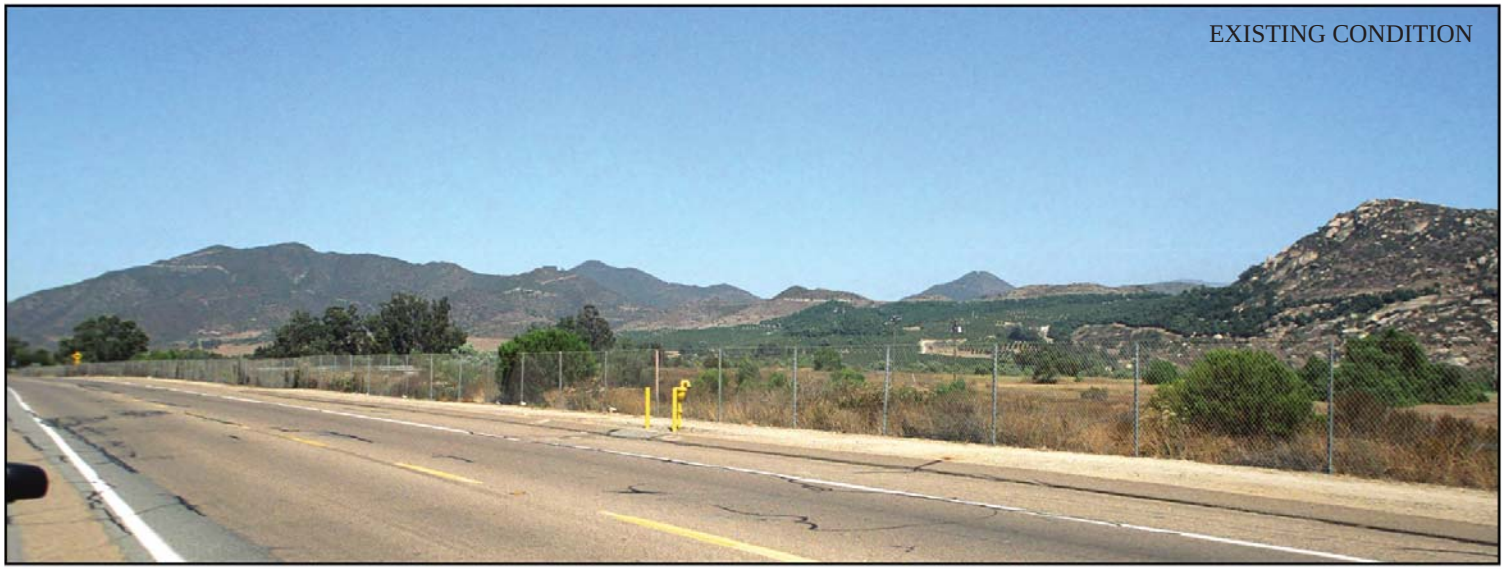

FIGURE 2.1-24
KOP 9 Photosimulation – View from West of the Project Site West of I-15

RECON

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Map Source: VisionScape Imagery, April 2009

FIGURE 2.1-25
KOP 21 Photosimulation – View from I-15, South of the Project Site

RECON

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Map Source: VisionScape Imagery, April 2009

FIGURE 2.1-26
KOP 15 Photosimulation – View from Northwest of the Project Site, West Shoulder of Southbound I-15

RECON

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Map Source: VisionScape Imagery, April 2009

FIGURE 2.1-27
KOP 19 Photosimulation – View from Northwest of the Project Site, East Shoulder of I-15

RECON

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Map Source: Helix Environmental Planning, April 2009

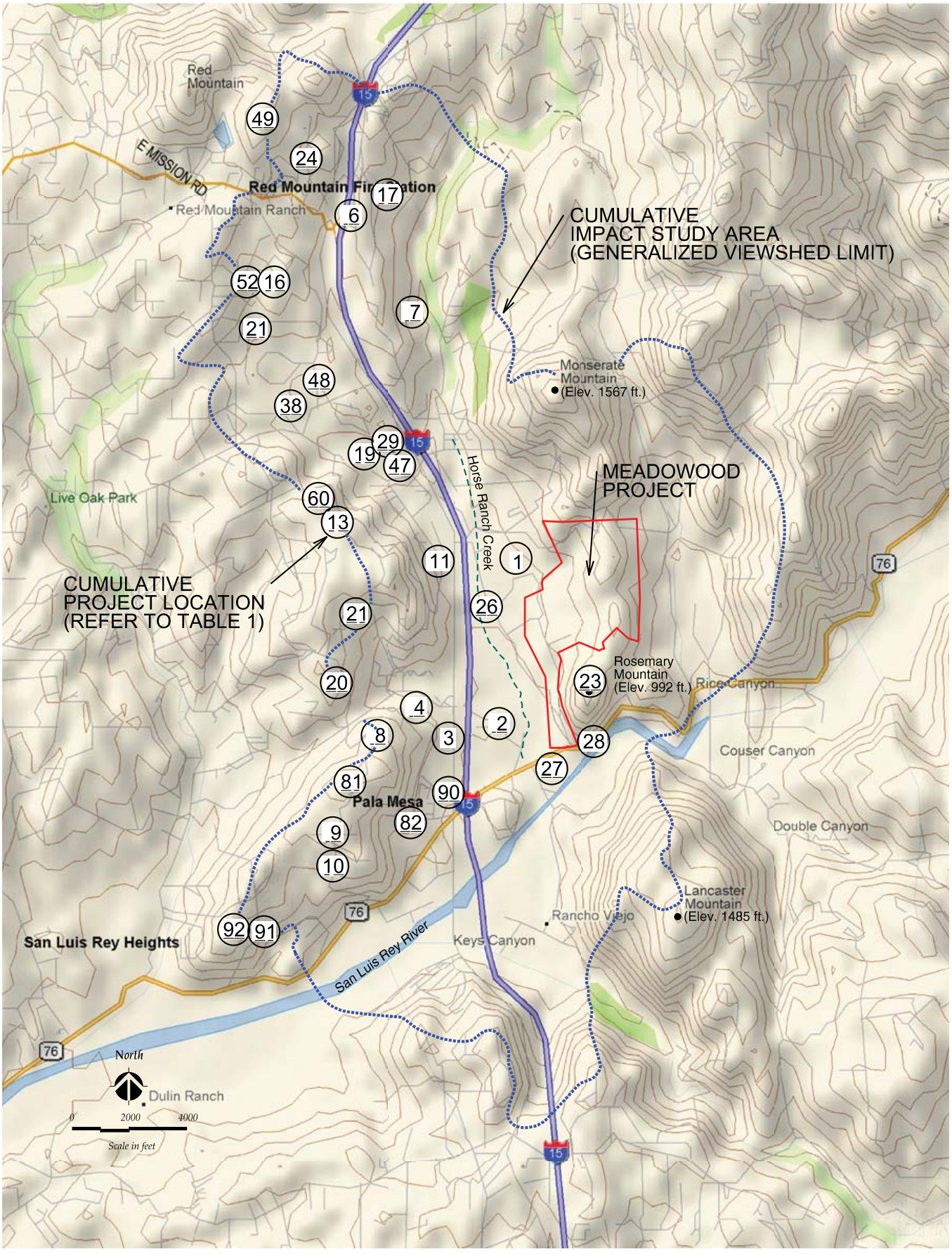

FIGURE 2.1-28

Cumulative Projects in the Viewshed

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TABLE 2.1-1
PROJECT'S CONFORMANCE WITH I-15 CORRIDOR
SCENIC PRESERVATION GUIDELINES

1. SITE DESIGN	
A. Site Planning Standards	
1. Individual projects shall reinforce the character of the sites, the attributes of adjacent projects and preserve the viewsheds, natural topographic features, and natural watercourses.	The design of the Proposed Project demonstrates sensitivity to both the natural setting and to the neighborhood context to ensure that the project reinforces the character of the site, the attributes of the adjacent properties and preserves the view sheds, natural topographic features and natural watercourses. Existing trees along the primary and secondary roadways will be preserved whenever possible and 49.3 acres of the site will remain in groves. No hilltop development is proposed and steep slopes will be avoided. Pursuant to the Conceptual Landscape Plan (Figures 1-12 a–d), extensive landscaping of foreground slopes and streetscapes will buffer the Project Site from view and would be integrated into the existing visual environment to the greatest extent possible. The large wetlands immediately adjacent to the project site will be preserved.
2. Individual projects shall relate on-site open space and pedestrian areas with those of other projects, both visually and in terms of providing for continuous paths of travel.	The Proposed Project includes approximately 6 miles of hiking trails, which will run north and south along the project's ridgeline and along an existing easement road with an uninterrupted westerly view, incorporating existing hiking and horse trails. The proposed on-site trail system has been planned and coordinated with adjacent developments. Additionally, the proposed natural open space area is adjacent to the open space area proposed in the Campus Park development in the northwest portion of the Proposed Project site.
3. Building setbacks shall be coordinated between adjacent lots so as to capitalize on usable site area between buildings.	Proposed Project setbacks have been planned to utilize the usable site area in between buildings. The Project Site Plan proposes a standard 5-foot side yard setback for single-family residential lots and 10' setbacks from property lines for multi-family residential lots. Pocket parks, agricultural open space and trails will be utilized as useable common areas.
4. Building orientation shall take maximum advantage of existing views and, create view corridors.	The orientation of the Proposed Project will take maximum advantage of existing views and create view corridors. The primary views are to the west and majority of homes are positioned to appreciate the primary view. The most visual single-family area follows the natural topography with curved streets to minimize graded slopes, and buildings have been limited to two stories and a 35-foot maximum height limit to allow continued viewing opportunities.
5. Ridgeline projects can be highly sensitive and are generally discouraged: a. Ridgeline projects shall maintain a low profile appearance and the natural physical character of the ridgeline shall be	No ridgeline development is proposed with the exception of the water tanks. Hillside development has been minimized with less than 10 percent encroachment into the steep sloped areas of the Proposed Project. The prominent ridges and steeper slopes that are the most visible are preserved in

TABLE 2.1-1
PROJECT'S CONFORMANCE WITH I-15 CORRIDOR
SCENIC PRESERVATION GUIDELINES
(CONTINUED)

substantially maintained; b. Ridgeline projects shall be limited to one story; c. Ridgelines that have been graded or disturbed shall be supplemented with a sufficient amount of trees, shrubs and ground cover to minimize visual impacts resulting from such disturbances.	open space, along with 49.3 acres of the existing groves, retaining the visual character of the property.
6. A combination of earth berm and/or wall techniques shall be provided to buffer noise.	The Proposed Project includes a combination of barrier materials for sound attenuation. Specifically, acceptable barrier materials include, but are not limited to, masonry block, wood frame with stucco, 0.5-inch-thick Plexiglas, or 0.25-inch-thick plate glass
B. Parking and Circulation Design Standards	
1. Use of public right-of-way for service loading/unloading shall be avoided. Adequate on-site service and delivery areas, including provisions for circulation, shall be provided. Service areas shall be separated from building entrances and public access areas when possible. Storage and loading areas shall not be located in the front yard.	The Proposed Project does not include commercial or industrial uses; therefore, service and industry areas are not incorporated into the project design. The Proposed Project will provide adequate circulation and improvements to the existing roadway system.
2. Project entries shall provide for safe and efficient circulation; a. Project entries and the transition from major circulation routes into the project interior shall be accomplished through the use of landforms, open space, landscape plantings and architectural elements (i.e., walls, signs, etc.); b. The number of driveway entrances into parking areas from public streets shall be minimized. Use of common easements for parking and circulation systems integrated between properties shall be encouraged; c. Safety lighting shall be provided at all street intersections and on project drives, entries, walkways and parking areas.	a. Project entries have incorporated different landforms, landscaping, and architectural elements. The project's primary entry will incorporate a low visibility wall and community identification sign that meets the County's community identification sign guidelines. b. The number of driveway entrances into parking areas from public streets shall be minimized. The shared park/school parking is located in the southwest corner of PA 3. The only access is via Street Q, the cul-de-sac between PAs 2 and 3. c. . Safety lighting will be provided according to the San Diego County Light Pollution Code.
3. Parking areas or structures shall be designed as integral components of the overall design of specific projects. Parking areas shall be bermed or screened from street views where possible.	The proposed residential lots have sufficient area to provide at least two on-site parking spaces consistent with the Zoning Ordinance, and will be screened from street views and landscaped when possible. Single-loaded parking on certain streets, private garages and additional guest parking has been included to minimize the impact of street parking. Common area residential parking lots are not proposed. Common parking areas in the multi-family areas and the shared park/school parking located within Planning Area 3 will be screened from the public street
4. Development of bikeways shall be encouraged.	The Proposed Project includes a trail system intended as a non-motorized multi-use trail system

TABLE 2.1-1
PROJECT'S CONFORMANCE WITH I-15 CORRIDOR
SCENIC PRESERVATION GUIDELINES
(CONTINUED)

	that accommodates bicycles.
5. Separation of pedestrian and bikeway or automobile traffic throughout a project shall be developed through the use of differing paving material or painting/coloring techniques.	Pedestrian trails and bikeways would be constructed of decomposed granite gravel, and are separated from automobile traffic through the use of setbacks, curbs and landscaping.
6. Definition of pedestrian paths and crossings shall be developed through the use of differing paving material or painting/coloring techniques.	Crosswalks will be differentiated from the typical paving materials. Trails will be comprised of decomposed granite. While pedestrian paths and crossings would utilize stone seat walls, special native plantings, lighting, and varying walkway widths.
7. Complete access for emergency (police, fire and ambulance) services to structures shall be provided as required.	The Proposed Project has been designed to meet the requirements for emergency services access. Additionally, a fire access road from Street E to Rice Canyon Road has been incorporated into the Project.
C. Site Lighting Standards	
1. Site lighting shall minimize emission of light rays into both the night sky and neighborhood properties, especially as it pertains to Mt. Palomar Observatory; a. Site lighting shall be limited to that necessary for security, safety and identification and shall be integrated with project landscape design. b. Excessive building or site lighting for decorative purposes shall be discouraged. 2. Site lighting plans that conflict with the character of the community shall be discouraged.	The Proposed Project will comply with all County lighting standards, including the San Diego Light Pollution Code. The overall lighting concept for the community is to be energy-efficient, screen or shield the light source whenever possible, and be effective for safety and security. The Proposed Project includes special landscape lighting limited only to key areas and carefully controlled. Nighttime lighting would be shielded and directed away from riparian habitat adjacent to the development.
D. Landscape Design Standards	
1. Visual screening for portions of development projects shall be provided to include satellite dishes, parking, and service areas located in viewshed areas.	The only common residential parking areas proposed are in the multi-family areas and are screened from the public street. The park/school parking lot located within Planning Area 3 would also be screened from the public street. No satellite dishes or service areas are proposed.
2. Project boundary landscaping shall complement adjacent landforms and plant materials.	The Conceptual Landscape Plan includes landscaping, including boundary landscaping, designed to reflect the Fallbrook region, which consists of gray-green native plantings contrasting with verdant groves, and oak woodlands. This pallet would complement adjacent landforms and plant materials.
3. Landscape plans shall utilize native and drought-tolerant plants where possible, per the plant list provided by County staff.	The Conceptual Landscape Plan for the Proposed Project will utilize native and drought-tolerant plants where possible. Trees, shrubs, and plantings have been proposed for drought tolerance as well as compatibility with the rural and natural setting of Fallbrook's agricultural heritage.
4. Trees and plantings adjacent to pedestrian paths and within parking areas shall be selected	The Proposed Project includes landscaping to provide transitions between development and surrounding open space areas, screen and buffer

TABLE 2.1-1
PROJECT'S CONFORMANCE WITH I-15 CORRIDOR
SCENIC PRESERVATION GUIDELINES
(CONTINUED)

to enhance the human scale; a. Tree canopies shall be encouraged to soften the visual impact of vehicular circulation and parking areas and relieve them from heat build-up. Trees shall be placed away from entrances to buildings, parking lots and street intersections for visibility and safety where possible. b. Low scale plantings shall be located adjacent to driveway entrances and street corners where possible and shall not obscure drive visibility. c. Parking areas shall be visually screened with peripheral landscaping wherever feasible. Exposed vehicular use areas shall include a minimum of 10% of the paved areas in landscaping, dispersed throughout the parking area.	edges of development from view, screen and soften manufactured slopes, and provide a buffer between neighborhoods. Tree plantings will be incorporated on slopes, along streets and parkways, and within open space areas to visually shield the project from view.
5. Common open spaces and recreational areas shall be linked by pedestrian pathways to individual lots.	The Proposed Project includes several miles of multi-use trails throughout the site, as well as hiking trails throughout the open space area. Additionally, the Proposed Project designates approximately 5.9 miles of public hiking and horse trails within the site. Pedestrian walkways and trails connect common useable spaces, recreational facilities and public facilities such as the school and nearby transit service area.
6. A "greenbelt" shall be provided in viewshed areas for accommodation of bikeways and/or footpaths.	The Proposed Project includes greenbelts within viewshed areas, as well as preserved orchards. Biking and hiking paths are also provided.
7. Landscape materials that aid in preventing the rapid spread of brush fires shall be provided.	The Proposed Project will comply with the County brush management requirements and will utilize landscape materials that aid in preventing the rapid spread of brush fires. Brush management will be specifically provided for within all sensitive buffer areas. The landscape design for these areas will adhere to the Fire Protection Plan prepared for the Proposed Project.
8. Earth berms shall be rounded and natural in character where possible, designed to obscure undesirable views.	In order to block the project from sight and soften its appearance, naturally appealing berms and vegetation would be used.
9. Major strands of native trees shall be preserved.	There are no major strands of native trees currently on the site. The site has been farmed for agriculture over several decades. However, existing mature native vegetation will be preserved where feasible and new native vegetation will be utilized whenever possible to maintain the rural Fallbrook character.
E. Public Utilities and Safety Standards	
1. New development projects shall be phased with the provision of adequate fire protection services.	Development of the Proposed Project will be phased with the level of available services. Temporary fire management zones have been negotiated with the adjacent property owners so that the development will be phased with adequate fire protection.

TABLE 2.1-1
PROJECT'S CONFORMANCE WITH I-15 CORRIDOR
SCENIC PRESERVATION GUIDELINES
(CONTINUED)

2. Fire prevention and suppression in the design of all new projects shall be encouraged.	The Proposed Project includes a fire protection plan that assures the Proposed Project's compliance with all regulations relating to primary and secondary access, water supply, ignition-resistant construction, fire protection systems, fuel modification and defensible space specified in the County Fire Code, County Building Code Brush management zones are proposed around all development adjacent to natural brush.
3. Utilities shall be placed underground (electrical, telephone, cable, etc.), where practical.	Utilities would be placed underground.
4. The alignment of utility infrastructure shall be correlated with the topography, to minimize disruption of natural features within the viewshed areas.	Utility infrastructure has been located within right-of-way easements to minimize disruption of natural features within the view shed areas.
5 Transformers and related utility components shall be placed in vaults or be screened with retaining walls and/or plantings and located to avoid conflict with pedestrian paths.	Transformers, mechanical equipment, utility boxes and meters will be screened using plantings and/or barriers to avoid conflict with pedestrian paths.
F. <u>Development Standards for Steep Topography and Natural Features</u>	
1. Extensive grading of slope areas within viewsheds shall be minimized; a. Revegetation and erosion control shall be provided in all newly graded areas. b. Grading during the wet seasons (November to March) shall be discouraged.	All grading within the Proposed Project is designed and rounded to follow the natural contours and minimize unnatural slopes. Areas disturbed during grading will be revegetated and erosion controls will be provided in the newly graded areas. Grading during the wet season will be avoided when possible.
2. Hillside development shall be integrated with existing topography and landforms. Areas of steep topography, tree stands, hillside agricultural activity and rock outcroppings shall be respected and preserved.	The Proposed Project has incorporated the natural features of the Project Site into design considerations, including the preservation of 91% of all steep slopes within permanent open space easements. Additionally, minimal hillside residential lots are proposed, no hilltop residential development is proposed and rock outcroppings will be preserved.
3. Variety in the development of hillsides shall be encouraged through the use of appropriate site preparation techniques, grading techniques, and in the configuration, size and placement of lots.	Three different building types are proposed in the residential planning areas, each utilizing different grading techniques to configure and locate lots. The single-family areas on the slopes have been designed with curved streets and landscaped slopes to respond to the natural contours of the site and to provide a less uniform look.
4. The arrangement of building sites to optimize and retain significant viewsheds shall be encouraged.	The orientation of the units will take maximum advantage of existing views and create view corridors. The primary views are to the west and majority of homes are positioned to appreciate the primary view.
5. The protection and preservation of the public use of on-site Vista points shall be encouraged.	The Proposed Project will include the preservation of several vista points located along the public ridgeline trail.
6. The visual quality shall be maximized and the erosion potential shall be minimized by planting native and naturalized plants, especially in disturbed areas adjacent to upgraded hillsides	Native plants will be utilized along the unnatural slopes to minimize erosion and maximize visual quality for greater than 50 feet of horizontal distance.

TABLE 2.1-1
PROJECT'S CONFORMANCE WITH I-15 CORRIDOR
SCENIC PRESERVATION GUIDELINES
(CONTINUED)

and watercourses.	
7. Natural watercourses shall be protected and existing watershed and groundwater resources shall be conserved.	No major natural watercourses exist on the project site. The project does not propose to use groundwater except as a secondary source of irrigation of retained groves in dry years As such, groundwater extraction will be minimal and groundwater resources will be conserved.
8. Any grading above 25 percent slope will blend with the surrounding area and be landscaped appropriately to look natural.	Minimal grading is proposed on existing slopes with a gradient greater than 25 percent. This grading will be landscaped with native vegetation that blends into the natural hillside.
2. ARCHITECTURAL DESIGN	
A. Building forms, materials and colors shall complement adjacent topography, landscape and buildings in the area.	
1. Architectural harmony with the surrounding community shall be achieved, through use of natural appearing materials and complementary styles.	The Proposed Project includes "General Architectural Guidelines" within the Specific Plan. The guidelines are intended to ensure that a variety of design elements are incorporated into the design of homes. While certain community-wide elements will have a common design (i.e. landscaping, fencing and signage), a variety of architectural styles are envisioned. A consistent palette of building materials and complementary color schemes, in conjunction with a uniform landscape scheme, will be used to tie several architectural styles together. Consistent with the surrounding community, primary materials will be wood, stucco, brick and stone. In addition, architectural detailing designed to minimize the appearance of building massing, thereby visually reducing the structural scale and creating a "village" feel. All proposed architecture would include "village style" features such as porches, columns, arcades, overhangs, seating areas, and shade trees, which would allow the development to achieve harmony with the surrounding styles of the Fallbrook community
2. Colors for primary building forms shall be coordinated with landscaping materials. Earth tones and muted pastels are preferred for large areas, with primary colors limited to accent points and trim.	The colors of the primary building forms will be earth tones and soft pastels.
3. Building materials used shall convey a sense of permanence and quality.	Building materials in each planning area will complement one another in order to convey a sense of permanence and quality. Primary materials will be wood, stucco, brick and stone.
4. Where a site is visible from higher elevations, roof forms shall be considered integral design elements, with consideration given to colors and pattern of roofing materials.	There are no building sites in the surrounding area that have proposed elevations higher than the proposed site.
5. The use of mirrored glass, which can cause the sun to glare into drivers' eyes and, therefore, a potential safety hazard, shall be prohibited on buildings visible from I-15.	The Proposed Project does not include the use of mirrored glass.
B. Building forms shall be of appropriate scale, provide visual interest, avoid block-like configurations and,	

TABLE 2.1-1
PROJECT'S CONFORMANCE WITH I-15 CORRIDOR
SCENIC PRESERVATION GUIDELINES
(CONTINUED)

where feasible, be integrated into the existing topography.	
1. The use of special detail treatments in roof forms, windows and entries shall be encouraged.	The Proposed Project includes detail treatments in roof forms, windows and entries to allow roof lines, shadow patterns, and architectural detailing to be offset to provide relief and visual contrast.
2. Roof-mounted satellite dishes, solar systems, ventilation ducts and other mechanical equipment shall be integrated into the architectural design, and be screened where visible from adjacent properties or high elevations.	All mechanical equipment will be screened from view.
3. Building forms shall be scaled to step up and away from primary circulation routes and from each other; parallel and continuous building facades and paved surfaces shall be avoided where possible.	Proposed building forms will be non-continuous and stepped up and down in elevation from the primary circulation routes to minimize the appearance of building massing.
C. Signage shall not adversely impact the environmental and visual quality of the area.	
1. All signs shall be limited to the minimum size and height necessary to adequately identify a business location.	The Proposed Project includes signage consistent with all guidelines related to size and height. The proposed signage would be limited to community identification signs. There are no commercial or industrial uses proposed in the project,
2. All signs shall be kept as low to the ground as possible.	All proposed signs will be located as low to the ground as possible.
3. Signs shall be used for identification, not advertisement.	No signs are proposed for advertisement.
4. Signage design shall be carefully integrated with the site and building design concepts to create a unified appearance for the total development. a. Signs shall be part of a comprehensive graphic program for each project.	The Proposed Project includes signage that will integrate the site and building design concepts to create a uniform appearance. Entry monument signage will be placed on a six foot high monument wall and would blend with the site and building design concepts located throughout the community. Entry signs would be constructed of native stone. At the entrance of the project, an orchard monument will be built to maintain the current village and orchard theme of the area.
5. Signs shall be predominately natural materials, non-moving, externally illuminated.	Proposed signs will utilize natural materials and be non-moving and externally illuminated.
6. Off-premise signs shall be prohibited except for temporary real estate directional, community identification and directional signs, as specified in Section 6207 of the County Zoning Ordinance.	No permanent off-premise signs are proposed. Temporary real estate directional signs, community identification and directional signs shall comply with the County Zoning Ordinance.

2.2 Air Quality (including Global Climate Change)

An Air Quality Technical Report and a Global Climate Change Analysis were prepared for the Proposed Project (2009). The following section is a summary of these reports which can both be found in their entirety in Appendices D-1 and D-2 of this EIR.

2.2.1 Existing Conditions

Climate

The project area, like the rest of San Diego County's inland valley areas, has a Mediterranean climate characterized by warm, dry summers and mild, wet winters. The mean annual temperature for the project area is 74 degrees Fahrenheit (º F). The average annual precipitation is 13 inches, falling primarily from November to April. Winter low temperatures in the project area average about 44º F, and summer high temperatures average about 81º F (U.S. Department of Commerce 2006).

The dominant meteorological feature affecting the region is the Pacific High Pressure Zone, which produces the prevailing westerly to northwesterly winds. These winds tend to blow pollutants away from the coast toward the inland areas. Consequently, air quality near the coast is generally better than that which occurs at the base of the coastal mountain range.

Generally, atmospheric temperature decreases as one moves higher and further from the earth's surface; however, fluctuations in the strength and pattern of winds from the Pacific High Pressure Zone throughout the day produce periodic temperature inversions. A temperature inversion is a thin layer of the atmosphere where the decrease in temperature with elevation is less than normal. The inversion acts like a "lid" keeping pollutants "trapped" within the area under the inversion layer. This area is called the mixing depth. Generally, the morning inversion layer is lower than the afternoon inversion layer. The greater the change between the morning and afternoon mixing depths, the greater the ability of the atmosphere to disperse pollutants.

Throughout the year, the elevation of the temperature inversion within the San Diego Air Basin (SDAB) in the afternoon varies between approximately 1,500 and 2,500 feet above MSL. In winter, the morning inversion layer is about 800 feet above MSL. In summer, the morning inversion layer is about 1,100 feet above MSL. Therefore, air quality tends to be better in winter than in summer because there is a greater change in the morning and afternoon mixing depths, allowing the dispersal of "trapped" pollutants. The Project Site is situated at an elevation of approximately 650 feet above MSL (the site ranges from 300 feet to over 550 feet at the northern end).

The prevailing westerly wind pattern is sometimes interrupted by regional "Santa Ana" conditions. A Santa Ana occurs when a strong high pressure develops over the Nevada-Utah area and overcomes the prevailing westerly coastal winds, sending strong, steady, hot, dry northeasterly winds over the mountains and out to sea.

Strong Santa Anas tend to blow pollutants out over the ocean, producing clear days. However, at the onset or during breakdown of these conditions, or if the Santa Ana is weak, emissions from the South Coast Air Basin to the north are blown out over the ocean, and low pressure over Baja California draws this pollutant-laden air mass

southward. As the high pressure weakens, prevailing northwesterly winds reassert themselves and send this cloud of contamination ashore in the SDAB.

When this event does occur, the combination of transported and locally produced contaminants generates the worst air quality measurements within the SDAB.

Global Climate Change

The earth's climate is in a state of constant flux with periodic warming and cooling cycles. Extreme periods of cooling are termed "ice ages," which may then be followed by extended periods of warmth. For most of the earth's geologic history, these periods of warming and cooling have been the result of many complicated, interacting natural factors that include volcanic eruptions which spew gases and particles (dust) into the atmosphere, the amount of water, vegetation, and ice covering the earth's surface, subtle changes in the earth's orbit, and the amount of energy released by the sun (sun cycles). However, since the beginning of the Industrial Revolution around 1750, the average temperature of the earth has been increasing at a rate that is faster than can be explained by natural climate cycles alone.

With the Industrial Revolution came an increase in the combustion of carbon-based fuels such as wood, coal, oil, and "biofuels." Industrial processes have also created emissions of substances that are not found in nature. This in turn has led to a marked increase in the emissions of gases that have been shown to influence the world's climate. These gases, termed "greenhouse gases" (GHG), influence the amount of heat that is trapped in the earth's atmosphere. Because recently observed increased concentrations of GHG in the atmosphere are related to increased emissions resulting from human activity, the current cycle of "global warming" is generally believed to be largely due to human activity. Of late, the issue of "global warming" has arguably become the most important and widely debated environmental issue in the United States and the world.

Regulatory Framework

Federal Regulations

The federal Clean Air Act (CAA) was enacted in 1970 and amended in 1977 and 1990 (42 U.S.C. 7401) for the purposes of protecting and enhancing the quality of the nation's air resources to benefit public health, welfare, and productivity. In 1971, in order to achieve the purposes of the CAA the U.S. Environmental Protection Agency (EPA) developed primary and secondary national ambient air quality standards (NAAQS) for seven pollutants known as "criteria" pollutants: ozone (O_3), carbon monoxide (CO), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), lead (Pb), and suspended particulates PM_{10} and $PM_{2.5}$.(Table 2.2-1).

Primary NAAQS are required to protect human health with an adequate margin of safety. Secondary standards are designed to protect property and the public welfare from air pollutants in the atmosphere.(42 U.S.C. 7409(b)(2)).

Ozone (O_3)

In 1997, the U.S. EPA promulgated a new eight-hour ozone standard of eight parts per hundred million (pphm) to replace the existing one-hour standard of 12 pphm. The SDAB

is designated a "basic" non-attainment area for the new eight-hour ozone standard (U.S. EPA 2004a). Using the discretion provided by Section 172(a)(1) of the CAA, the U.S. EPA has chosen not to classify the basin (e.g., moderate, serious, etc.). Pursuant to Section 172(a)(2)(A) of the CAA, the period of attainment will be no more than five years from the effective date of designation (U.S. EPA 2004b). Consequently, the SDAB must demonstrate attainment by June 15, 2009; however, the U.S. EPA may grant an extension of the attainment date to no more than 10 years after designation, or June 15, 2014.

On March 12, 2008, the U.S. EPA further revised the eight-hour ozone standard to 7.5 pphm. On March 12, 2009, CARB submitted its recommendations for area designations for the revised federal eight-hour ozone standard. The recommendations are based on ozone measurements collected during 2006 through 2008. It was recommended that the SDAB be classified as nonattainment. The U.S. EPA will issue final area designations no later than March 2010 (if there is insufficient information to make these designation, the U.S. EPA will issue designations no later than March 2011). California must then submit an SIP outlining how the state will meet the standards by a date that the U.S. EPA will establish in a separate rule. That date will be no later than three years after the U.S. EPA's final designations (e.g., if final designations are made in 2010, the SIP must be submitted by 2013). The deadline for attaining the standard may vary based on the severity of the problem in the area.

Suspended Particulates ($PM_{2.5}$ and PM_{10})

The SDAB had been classified as an attainment area for $PM_{2.5}$; however, on September 21, 2006, the U.S. EPA revised the NAAQS for particulate matter. The 24-hour $PM_{2.5}$ standard was strengthened from 65 micrograms per cubic meter ($\mu g/m^3$) to 35 $\mu g/m^3$. The existing standards for annual $PM_{2.5}$ of 15 $\mu g/m^3$ remained the same.

States had until December 18, 2007, to make recommendations for areas to be designated attainment and nonattainment under the revised $PM_{2.5}$ standard. It was recommended that the SDAB be designated as an attainment (State of California 2007a). The U.S. EPA will make the final designations by late 2009 and those designations will become effective in April 2010. For areas designated as non-attainment, State Implementation Plans (SIP) for meeting the new standard will be due three years after the designations. States must meet the standards by April 2015 with a possible extension to April 2020.

The U.S. EPA also revised the standards for PM_{10}. Due to a lack of evidence linking health problems to long-term exposure to coarse particle pollution, the agency revoked the new annual PM_{10} standard (effective December 17, 2006) and the existing federal standard for PM_{10} was retained.

Other Criteria Pollutants

The SDAB is in attainment for the NAAQS for all other criteria pollutants.

State Regulations

The U.S. EPA allows the states the option to develop their own ambient air quality standards provided they are at least as stringent as the federal standards. The California

Air Resource Board (CARB) has set more stringent limits on six of the seven criteria pollutants in the California Ambient Air Quality Standards (CAAQS). The standards are shown in Table 2.2-1.

The SDAB is a non-attainment area for the state $PM_{2.5}$ standard (State of California 2005). With regard to the CAAQS, the SDAB is currently classified as a nonattainment area for O_3 and PM_{10}. The SDAB is in attainment for the CAAQS for all other criteria pollutants.

Assembly Bill (AB) 2595, known as the California Clean Air Act, became effective on January 1, 1989, and requires that districts implement regulations to reduce emissions from mobile sources through the adoption and enforcement of transportation control measures and (South Coast Air Quality Management District [SCAQMD] 2003):

- Demonstrate the overall effectiveness of the air quality program;
- Reduce nonattainment pollutants at a rate of five percent per year, or include all feasible measures and expeditious adoption schedule;
- Ensure no net increase in emissions from new or modified stationary sources;
- Reduce population exposure to severe nonattainment pollutants according to a prescribed schedule;
- Include any other feasible controls that can be implemented, or for which implementation can begin, within 10 years of adoption of the most recent air quality plan; and
- Rank control measures by cost-effectiveness.

Toxic Air Contaminants

The public's exposure to toxic air contaminants (TACs) is a significant public health issue in California. In 1983, the California Legislature enacted a program to identify the health effects of TACs and to reduce exposure to these contaminants to protect the public health (AB 1807: Health and Safety Code sections 39650-39674). The Legislature established a two-step process to address the potential health effects from TACs. The first step is the risk assessment (or identification) phase. The second step is the risk management (or control) phase of the process.

In April 2005, the CARB published the "Air Quality and Land Use Handbook: A Community Health Perspective." The handbook makes recommendations directed at protecting sensitive land uses while balancing a myriad of other land use issues (e.g., housing, transportation needs, economics). It notes that the handbook is not regulatory or binding on local agencies and recognizes that application takes a qualitative approach. As reflected in the CARB handbook, there is currently no adopted standard for the significance of health effects from mobile sources. Therefore, the CARB has provided guidelines for the siting of land uses near heavily traveled roadways. Of pertinence to this study, the CARB guidelines indicate that siting new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day should be avoided when possible.

As an ongoing process, the CARB will continue to establish new programs and regulations for the control of diesel particulate emissions as appropriate. The continued

development and implementation of these programs and policies will ensure that the public exposure to diesel particulate matter will continue to decline.

State Implementation Plan

The SIP is a collection of documents that set forth the state's strategies for achieving air quality standards. The San Diego Air Pollution Control District (SDAPCD) is the local agency responsible for preparing and implementing the portion of the SIP applicable to the SDAB. The SDAPCD adopts rules, regulations, and programs to attain state and federal air quality standards, and appropriates money (including permit fees) to achieve the objectives of the SIP.

Local Regulations

The SDAPCD prepared the 1991/1992 Regional Air Quality Strategy (RAQS) in response to the requirements set forth in AB-2595. The draft was adopted, with amendments, on June 30, 1992 (County of San Diego 1992). Attached as part of the RAQS are the transportation control measures (TCM) for the air quality plan prepared by SANDAG in accordance with AB-2595 and adopted by SANDAG on March 27, 1992, as Resolution Number 92-49 and Addendum. The required triennial update of the RAQS and corresponding TCM was adopted on December 12, 1995, 1998, 2001, and 2004. The RAQS and TCM plan set forth the steps needed to accomplish attainment of state and federal ambient air quality standards.

The SDAPCD has also established a set of rules and regulations initially adopted on January 1, 1969, and periodically reviewed and updated. The rules and regulations define requirements regarding stationary sources of air pollutants and fugitive dust.

Global Climate Change

The Coordinating Committee on the Ozone Layer was established by the United Nations Environment Program (UNEP) in 1977, and UNEP's Governing Council adopted the World Plan of Action on the Ozone Layer. Continuing efforts led to the signing in 1985 of the Vienna Convention on the Protection of the Ozone Layer. This resulted in the creation of the Montreal Protocol on Substances That Deplete the Ozone Layer (Montreal Protocol), an international treaty designed to protect the stratospheric ozone layer by phasing out production of ozone depleting substances (ODSs). The treaty was adopted on September 16, 1987 and went into force on January 1, 1989.

Similar to the events that led to the Montreal Protocol, to address growing concern about global climate change, 191 countries including the United States joined an international treaty known as the United Nations Framework Convention on Climate Change (UNFCCC). The UNFCCC recognizes that the global climate is a shared resource that can be affected by industrial and other emissions of GHG, and that set an overall framework for intergovernmental efforts to tackle the challenges posed by global climate change. Under this treaty, governments gather and share information on GHG emissions, national policies and best practices; launch national strategies for addressing GHG emissions and adapting to expected impacts, including the provision of financial and technological support to developing countries; and cooperate in preparing for adaptation to the impacts of climate change. The UNFCCC entered into force on March 21, 1994. However, this treaty generally lacked powerful, legally binding measures.

The Kyoto Protocol (Protocol) was adopted in December 1997. The Kyoto Protocol shares the UNFCCC's objective, principles, and institutions, as it significantly strengthens the UNFCCC by committing industrialized countries to individual, legally binding targets to limit or reduce their GHG emissions. Only parties to the UNFCCC that have also become parties to the Protocol are bound by the Protocol's commitments. More than 161 countries, constituting 55 percent of global emissions, are under the protocol. Although former U.S. Vice President Al Gore symbolically signed the Protocol in 1998, the Protocol has not been formally adopted by the U.S. Senate, as is required.

The U.S. developed the Climate Change Action Plan (CCAP). The CCAP consists of initiatives that involve all economic sectors and aim at reducing all significant GHG. The CCAP, backed by federal funding, cultivates cooperative partnerships between the government and the private sector to establish flexible and cost-effective ways to reduce GHG emissions within each sector. The CCAP encourages investments in new technologies, but also relies on previous actions and programs focused on saving energy and reducing emissions.

The State of California has a number of policies and regulations that are either directly or indirectly related to GHG emissions.

California Code of Regulations, Title 24, Part 6 is the California Energy Code. This code, originally enacted in 1978 in response to legislative mandates, establishes energy efficiency standards for residential and non-residential buildings in order to reduce California's energy consumption. The Code is updated periodically to incorporate and consider new energy efficiency technologies and methodologies as they become available. The most recent amendments to the Code are dated September 11, 2006. By reducing California's energy consumptions, emissions of GHG may also be reduced.

California Assembly Bill 1493 was enacted on July 22, 2002. It required the CARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light duty trucks. Regulations adopted by CARB will apply to 2009 and later model year vehicles.

Executive Order S-3-05, signed by Governor Schwarzenegger on June 1, 2005, established the following GHG emission reduction targets for the state of California:

- By 2010, reduce GHG emissions to 2000 levels;
- By 2020 reduce GHG emissions to 1990 levels;
- By 2050 reduce GHG emissions to 80 percent below 1990 levels.

This executive order also directs the secretary of the California EPA (CalEPA) to oversee the efforts made to reach these targets, and to prepare biannual reports on the progress made toward meeting the targets and on the impacts to California related to global warming, including impacts to water supply, public health, agriculture, the coastline, and forestry. With regard to impacts, the report shall also prepare and report on mitigation and adaptation plans to combat the impacts.

In response to Executive Order S-3-05, the California legislature passed Assembly Bill 32 (AB 32), the "California Global Warming Solutions Act of 2006," which was signed by

the governor on September 27, 2006. It requires the CARB to adopt rules and regulations that would reduce GHG emissions to 1990 levels by 2020.

Executive Order S-01-07, signed by Governor Schwarzenegger on January 18, 2007, directs that a statewide goal be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020. It orders that a Low Carbon Fuel Standard (LCFS) for transportation fuels be established for California and directs the CARB to determine if a LCFS can be adopted as a discrete early action measure pursuant to AB 32 (The CARB approved the LCFS as a discrete early action item with a regulation to be adopted and implemented by 2010 at its June 2007 hearing.) EO S-01-07 also instructs the CalEPA to coordinate activities between the University of California, the California Energy Commission, and other state agencies to develop and propose a draft compliance schedule to meet the 2020 target.

Existing Air Quality

As stated above, the project area is within the SDAB. Air quality at a particular location is a result of the kinds and amounts of pollutants being emitted both into the air locally and throughout the basin coupled with the dispersal rates of pollutants within the region. The major factors affecting pollutant dispersion are wind speed and direction, the vertical dispersion of pollutants, which is affected by inversions, and the local topography.

Air quality is commonly expressed as the number of days in which air pollution levels exceed state standards set by the CARB and federal standards set by the U.S. EPA (see Table 2.2-1). The concentration of pollutants within the SDAB is measured at 10 stations maintained by the SDAPCD and the CARB. Table 2.2-2 summarizes the number of days per year during which state and federal standards were exceeded in the SDAB during the years 2003 to 2007. The station nearest the Project Site which is most representative of the air quality near the Project Site and measures a full range of pollutants is the Escondido – East Valley Parkway monitoring station, located approximately 15 miles south of the Project Site. Table 2.2-3 provides a summary of measurements of O_3, CO, PM_{10}, and $PM_{2.5}$ collected at the Escondido – East Valley Parkway monitoring station for the years 2003 through 2007.

Ozone

Ozone, or smog, is the primary source of air pollution in the SDAB. Nitrogen oxides and hydrocarbons, known as reactive organic gases (ROGs), are known to be the chief "precursors" of ozone. These compounds react in the presence of sunlight to produce ozone. Because sunlight plays such an important role in the formation of smog, it is at its highest concentration during the daytime in summer months. About half of these smog-forming pollutants come from automobiles (County of San Diego 2004). Population growth in San Diego has resulted in a large increase in the number of automobiles operating on area roadways.

Not all of the ozone within the SDAB is derived from local sources. Under certain meteorological conditions, such as during Santa Ana wind events, ozone and other pollutants are transported from the South Coast Air Basin (Los Angeles) and combine with ozone formed from local emissions sources to produce elevated ozone levels in the SDAB.

As discussed above, in order to address adverse health effects due to prolonged exposure, the U.S. EPA phased out the national one-hour ozone standard and replaced it with the more protective eight-hour ozone standard. The former national one-hour ozone standard was not exceeded at the Escondido – East Valley Parkway monitoring station during the five-year period of 2003 to 2007. The stricter state standard for ozone was exceeded at the Escondido – East Valley Parkway monitoring station three days in 2003, two days in 2004, one day in 2005, and three days in 2006 (State of California 2008b).

According to SANDAG, on average approximately 42 percent of the days that had ozone concentrations over the state standard between 1987 and 1994 were attributable to pollution transported from the Los Angeles area (SANDAG 1994:249-250). Local agencies can control neither the source nor the transportation of pollutants from outside the SDAB. The SDAPCD's policy, therefore, has been to control local sources effectively enough to reduce locally produced contamination to clean air standards. Through the use of air pollution control measures outlined in the RAQS, the SDAPCD has effectively reduced ozone levels in the SDAB; however, the SDAB remains designated a nonattainment area for both national and state standards for Ozone.

Carbon Monoxide

The SDAB is classified as a state and federal attainment area for CO (County of San Diego 1998). Until 2003, no violations of the state standard for CO had been recorded in the SDAB since 1991, and no violations of the national standard had been recorded in the SDAB since 1989. As seen in Table 2.2-2, both the federal and state CO standards were exceeded in the County on one day in 2003, October 28, a day when major wildfires were raging throughout the County. This exceedance was likely caused by the wildfires and would be considered beyond the control of the SDAPCD. Such an event would be covered under the U.S. EPA's Natural Events Policy, which provides for the exclusion of air quality data attributable to uncontrollable natural events (e.g., volcanic activity, wildland fires, and high wind events). Therefore, notwithstanding this day of nonattainment, the SDAB remains in attainment for CO.

Small-scale, localized concentrations of CO above the state and national standards are called "CO hot spots." These have the potential to occur at intersections with stagnation points, such as those that occur on major highways and heavily traveled and congested roadways.

PM_{10}

PM_{10} is a particulate matter with an aerodynamic diameter of 10 microns or less. Ten microns is about one-seventh of the diameter of a human hair. Particulate matter is a complex mixture of very tiny solid or liquid particles composed of chemicals, soot, and dust. Sources of PM_{10} emissions in the SDAB consist mainly of activities that disturb the soil including travel on roads and construction, mining, or agricultural operations, dust suspended by vehicle traffic, as well as secondary aerosols formed by reactions in the atmosphere. Other sources include windblown dust, salts, brake dust, and tire wear (County of San Diego 1998).

As of 2003, the national standards for PM_{10} had never been exceeded in the SDAB. The U.S. EPA has designated the SDAB unclassifiable for PM_{10}. In 2003, the federal PM_{10}

standard was exceeded twice in the SDAB. These two exceedances result in a calculated number of days that the federal standard was exceeded of approximately nine days for the year (see Table 2.2-2). The first exceedance occurred on October 29, 2003, at a time when major wildfires were raging throughout the county. The second exceedance occurred on November 23, 2003, during high winds which caused large amounts of ash from the previous fires to be resuspended. Like the exceedance of the CO standard, these exceedances were likely caused by or were a subsequent result of the wildfires and would be beyond the control of the SDAPCD pursuant to the U.S. EPA's Natural Events Policy. Thereafter, the federal PM_{10} standard was exceeded in the SDAB on October 13, 2005 and again on October 21, 2007. These exceedances result in a calculated number of days that the federal standards were exceeded of approximately six days for 2005 and 2007 (see Table 2.2-2).

The stricter state 24-hour standard was exceeded five days in 2003, one day in 2004, one day in 2006, and two days in 2007 (State of California 2008b). These exceedances resulted in a calculated number of days that the state standard was exceeded of 30.7 days in 2003, 6.1 days in 2004, 5.8 days in 2006, and 11.5 days in 2007.

In conclusion, the SDAB remains in attainment under national standards, but is considered a non-attainment area under state standards for PM_{10}.

$PM_{2.5}$

Airborne, inhalable particles with aerodynamic diameters of 2.5 microns or less ($PM_{2.5}$) have been recognized as a pollutant requiring regular monitoring. Federal regulations required that $PM_{2.5}$ monitoring begin January 1, 1999 (County of San Diego 1999). The Escondido – East Valley Parkway monitoring station is one of five stations in the SDAB that monitors $PM_{2.5}$. The 24-hour $PM_{2.5}$ standard in effect was exceeded once in 2003, once in 2004, and twice in 2007. The SDAB was initially classified as a non-attainment area; however, it was subsequently reclassified as an attainment area for the $PM_{2.5}$ standard (U.S. EPA 2004c). The SDAB is a non-attainment area for the state $PM_{2.5}$ standard (State of California 2005).

As discussed above, the $PM_{2.5}$ standard has been revised. For the new particulate standard, state recommendations for area designations were due to the U.S. EPA by December 18, 2007, and the U.S. EPA will make the final designations by November 2009. It was recommended that the SDAB be designated as an attainment area for the revised standards (State of California 2007b). This is also the EPA's intended designation for the SDAB.

Other Criteria Pollutants

The national and state standards for NO_2, SO_2, and lead are being met in the SDAB and the latest pollutant trends suggest that these standards will not be exceeded in the foreseeable future.

Greenhouse Gases (GHGs)

There are numerous GHGs, both naturally occurring and artificial. Table 2.2-4 summarizes some of the most common. Of the gases listed in Table 2.2-4, carbon dioxide, methane, and nitrous oxide are produced by both natural and anthropogenic

(human) sources. The remaining gases, hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6), are the result of human processes.

Details relating to the calculation of GHGs are found in the Global Climate Change Report attached to the EIR as Appendix D-2. The increase in the earth's temperature is expected to have wide ranging effects on the environment. Although global climate change is anticipated to affect all areas of the globe, there are numerous implications of direct importance to California. Statewide average temperatures are anticipated to increase by between 3 and 10.5° F by 2100. Some climate models indicate that this warming may be greater in the summer than in the winter. This could result in widespread adverse impacts to ecosystem health, agricultural production, water use and supply, and energy demand. Increased temperatures could reduce the Sierra Nevada snowpack and put additional strain on the region's water supply. In addition, increased temperatures could result in lower inversion levels leading to a decrease in air quality. It is important to note that even if GHG emissions were to be eliminated or dramatically reduced, it is projected that the effect of those emissions would continue to affect global climate for centuries.

2.2.2 Guidelines for the Determination of Significance

Air Quality

For the purposes of this EIR, the basis for the determination of significance for Guidelines 1 through 4 is the County of San Diego Guidelines for Determination of Significance, Air Quality, adopted July 30, 2007. Additionally, the threshold for ROG was obtained from Chapter 6 of the CEQA Air Quality Handbook of the SCAQMD (SCAQMD 1993) and the threshold for $PM_{2.5}$ was obtained from the SCAQMD Final Methodology to Calculate $PM_{2.5}$ and $PM_{2.5}$ Significance Thresholds (SCAQMD 2006). A project will have a significant adverse environmental impact related to air quality if the project would:

1. Conflict with or obstruct the implementation of the San Diego RAQS and/or applicable portions of the SIP.

2. Result in emissions that would violate any air quality standard or contribute substantially to an existing or projected air quality violation.

    a. Result in emissions that exceed 250 pounds per day of NOx, or 75 pounds per day of VOCs.

    b. Result in emissions of carbon monoxide of 550 pounds per day, and when totaled with the ambient concentrations will exceed a 1-hour concentration of 20 parts per million (ppm) or an 8-hour average of 9 ppm.

    c. Result in emissions of PM2.5 that exceed 55 pounds per day.

    d. Result in emissions of PM10 that exceed 100 pounds per day and increase the ambient PM10 concentration by 5 micrograms per cubic meter (5.0 µg/m3) or greater at the maximum exposed individual.

    e. Result in emissions of ROG, as a precursor to Ozone, that exceed 75 pounds per day.

3. Expose sensitive receptors (including, but not limited to, schools, hospitals, resident care facilities, day-care centers and project residents) to substantial pollutant concentrations.

    a. Place sensitive receptors near CO "hotspots" or creates CO "hotspots" near sensitive receptors.

    b. Result in exposure to TACs resulting in a maximum incremental cancer risk greater than 1 in 1 million without application of Toxics-Best Available Control Technology or a health hazard index greater than one would be deemed as having a potentially significant impact.

4. Expose considerable number of persons to objectionable odors.

Global Climate Change

The topic of global warming has been newly introduced for analysis in project EIRs and direct guidance is not currently provided in CEQA Guidelines. Likewise, guidelines for the determination of significance for this topic have yet to be adopted by the County. There is, however, some guidance to be found in CEQA. CEQA Guidelines Section 15144 states that drafting an EIR involves some degree of forecasting, and while forecasting the unforeseeable is not possible, an agency must use its best efforts to find out and disclose all that it can within reason. CEQA Guidelines Section 15145 deals with the difficulty in forecasting where a thorough investigation is unable to resolve an issue and the answer remains purely speculative.

CEQA Guidelines Section 15146 discusses informed decision-making. The comments on this section note that the level of analysis for a particular issue must be specific enough to permit informed decision making and public participation without engaging in a speculative analysis of environmental consequences.

With regard to climate change, it is possible to document the current state of research and to forecast an emissions inventory for GHGs associated with the Proposed Project at build out. Simple data is provided to allow for informed decision making and public participation without attempting to forecast unforeseeable consequences or speculate outcomes.

Since there are currently no published thresholds or recommended methodologies for determining the significance of a project's potential contribution to global climate change, no uniform accepted approach has been developed for assessing a project's potential impacts relative to global climate change. CARB has prepared *Preliminary Draft Staff Proposal: Recommended Approaches for Setting Interim Significance Thresholds for Greenhouse Gases under the California Environmental Quality Act* (State of California 2008c). This draft document is intended as a resource, not a guidance document; however, it recognizes that major emission sub-sources for residential and commercial uses include energy use, transportation, water use, waste, and construction and has identified the California Energy Commission (CEC) Tier II Energy Efficiency goals as an appropriate performance standard for energy use.

A project will have a significant adverse environmental impact related to global climate change if the project would:

1. Be unable to meet the CEC Tier II Energy Efficiency Goals of a 30 percent reduction over Title 24 standards.

2.2.3 Analysis of Project Effects and Determination as to Significance

RAQS/SIP Impacts (Guideline 1)

A project would result in a significant air quality impact if the project obstructs or conflicts with implementation of the San Diego RAQS or applicable portion of the SIP.

The RAQS and the SIP rely on the local adopted plans for their projections and forecasts, which determine compliance for individual projects. SANDAG forecasts for San Diego County indicate that from 2008 to 2030, the number of housing units in the Fallbrook CP Area will increase by 41 percent, or 6,346 units (SANDAG 2006, 2008). The current Fallbrook CP designates the Project Site as Specific Plan Area and Multiple Rural Use, allowing up to 262 dwelling units. The Proposed Project could result in construction of up to 886 dwelling units. Because the densities included in the Proposed Project are not consistent with the existing, adopted San Diego County General Plan and the Fallbrook CP, they were not considered in the development of the RAQS for the SDAB. Therefore, impacts associated with conflicts with the RAQS and the SIP would be **significant (AQ-1)**.

Air Quality Standards (Guideline 2)

Air quality impacts would be significant if the Proposed Project results in emissions that would violate any air quality standard or contribute substantially to an existing or projected air quality violation. Impacts relating to CO and particulate matter concentrations are discussed under Sensitive Receptors (Guideline 3).

Emissions due to implementation of the Proposed Project were calculated using the URBEMIS 2007 computer program (Rimpo and Associates 2007). The URBEMIS 2007 program is a tool used to estimate air emissions resulting from land development projects in the state of California. The model addresses emissions from three basics sources: construction sources (short-term impacts resulting from fugitive dust, equipment exhaust, and indirect effects associated with construction workers and deliveries); area sources (e.g., fireplaces, natural gas heating, etc.); and operation related sources (e.g., traffic). Details relating to the modeling parameters and calculation data used in the URBEMIS 2007 program have been included in the technical study attached as Appendix D-1. The outcome was compared to SDAPCD Air Quality Impact Analysis (AQIA) screening levels shown in Table 2.2-5.

Construction Source Emissions

Heavy-duty construction equipment is usually diesel powered. In general, emissions from diesel powered equipment generally produce less CO and less ROGs than gasoline powered engines, but contain more NO_X, SO_X, and particulate matter (PM_{10} and $PM_{2.5}$). Diesel fuel is also not leaded. Construction activity can also result in the release VOC, a variety of toxins that appear in paint coatings and finishes.

Site grading volumes associated with construction of the Proposed Project would be balanced on-site and there would be no import or export of soil. The URBEMIS 2007 computer program assumes that construction would begin in January 2012 and last until 2025 and divides construction into seven phases: demolition, mass site grading, fine site grading, trenching, paving, building construction, and architectural coatings. Table 2.2-6 summarizes the lengths of each construction phase and the assumed numbers and pieces of equipment used for each phase.

Table 2.2-7 shows the projected maximum daily emission levels for each criteria pollutant due to construction of the Proposed Project. SDAPCD rules and regulations require the use of standard dust and emission control measures during grading operations. These standard measures are listed below and considered part of the Proposed Project design. As such they were included in the URBEMIS 2007 model.

The emission levels summarized in Table 2.2-7 are the maximum emissions for each pollutant allowed during different phases of construction. Because each phase would not necessarily occur simultaneously, these levels represent a worst-case scenario. As also shown in Table 2.2-7, with incorporation of the standard construction measures listed below, maximum daily construction emissions of NO_X (Guideline 2(a)), CO (Guideline 2(b)), $PM_{2.5}$ (Guideline 2(c)), PM_{10} (Guideline 2(d)), or ROG (Guideline 2(e)) are projected to be **less than significant.**

a. All unpaved construction areas shall be sprinkled with water or other acceptable SDAPCD dust-control agents at least three times daily and during dust-generating activities to reduce dust emissions. Additional watering or acceptable SDAPCD dust-control agents shall be applied during dry weather or windy days until dust emissions are not visible.

b. Apply soil stabilizers to inactive areas.

c. A 15-mile-per-hour speed limit on unpaved surfaces shall be enforced.

d. On dry days, dirt and debris spilled onto paved surfaces shall be swept up immediately to reduce re-suspension of particulate matter caused by vehicle movement. Approach routes to construction sites shall be cleaned daily of construction-related dirt in dry weather.

e. Disturbed areas shall be hydroseeded, landscaped, or developed as quickly as possible and as directed by the County and/or SDAPCD to reduce dust generation.

To determine the Proposed Project's potential emissions relating to VOC (Guideline 2(b), the SCAB emission data and the SCAQMD rules regarding architectural VOC content were used. Specifically, the SCAQMD rules require the use of low VOC content paint as follows: residential interior coatings are required to have a content less than or equal to 50 grams per liter, residential exterior coatings a content less than or equal to 100 grams per liter, and non-residential exterior and interior coatings a content less than or equal to 250 grams per liter.

As shown in Table 2.2-7, if the Proposed Project does not conform to low VOC content architectural coating, construction related emissions of VOC would be **significant (AQ-2)**.

On-site Operation and Area Source Emissions

The Proposed Project would result in operation related emissions from traffic and on-site source emissions from activities such as natural gas fireplaces, and landscaping maintenance activities. Among other parameters used in the URBEMIS 2007 model, basic assumptions for the evaluation of these emissions include: build-out of the Proposed Project would occur in 2025; the Proposed Project would generate 8,740 average daily trips (LOS Engineering 2009); and all of the residential units would have natural gas fireplaces.

Future retail uses are proposed within the Campus Park project located adjacent to the Proposed Project. URBEMIS 2007 assumes that retail uses located within 0.5 mile of the Proposed Project would reduce trips by two percent. Buses would also serve the project area, further reducing vehicle trips. These measures were taken into account for calculating operational emissions.

The total average daily emissions resulting from vehicular traffic and on-site activities for the Proposed Project are shown in Table 2.2-8. As seen, emissions of NO_X and VOCs (Guideline 2(a)), CO (Guideline 2(b)), $PM_{2.5}$ (Guideline 2(c)) are not projected to violate any air quality standard; however, emissions of PM_{10} (Guideline 2(d)) and ROG (Guideline 2(e)) are anticipated to exceed the significance thresholds during both summer and winter months. In order to reduce these emission levels the Proposed Project promotes walking, bicycle riding, or horseback riding as alternative forms of transportation to motorized vehicles by including the following features into the specific plan:

- Complete sidewalk coverage in the project area
- Street trees to provide shade throughout the project area
- Internal trail system with connections to a regional system
- Bike routes with paved shoulders to most major destinations
- Mixed residential uses and routes that are visually interesting
- Pedestrian and bicyclist safety through lighting, signalization and signage, bike lanes (as appropriate), and crosswalks

Despite these design considerations, on-site operational and source emissions of ROG and PM_{10} will continue to violate air quality standards. Therefore, impacts associated with these pollutants would be **significant (AQ-3).**

Sensitive Receptors (Guideline 3)

Carbon Monoxide Hotspots

Air quality impacts would be significant if the Proposed Project exposes sensitive receptors (including, but not limited to, schools, hospitals, resident care facilities, day-care centers, and project residents) to substantial pollutant concentrations.

Small-scale, localized concentrations of CO greater than the state and national standards have the potential to occur near stagnation points of heavily traveled intersections. These "CO hot spots" can occur when projects contribute traffic to area intersections. "CO hot spots" almost exclusively occur near intersections operating at a LOS E or worse when in combination with high traffic volumes on neighboring roadways. The SDAB is in attainment of both the federal and state CO standards, and background CO concentrations are also below federal and state allowable limits.

A "CO hot spot" analysis was performed using California Line Source Model (CALINE; Caltrans 1989) and emission rates calculated by EMission FACtors (EMFAC; State of California 2002). The model, prepared in accordance with the Transportation Project-Level Carbon Monoxide Protocol (Caltrans Protocol) established by Caltrans (Garza et al. 1997) is included in Appendix D-1. Traffic volumes, intersection and roadway configurations, and speeds were provided by the traffic report (LOS Engineering 2009). The specific procedure followed is detailed in Appendix B of the Caltrans Protocol.

For near-term conditions, the micro-scale "CO hot spot" analysis was performed at four intersections within the project area: SR-76 at the I-15 northbound and southbound ramps, SR-76 at Horse Ranch Creek Road, and Old Highway 395 at Pala Mesa Drive. These intersections were chosen because they will operate at LOS F experiencing some of the highest traffic volumes of all the intersections examined in the project traffic report (LOS Engineering 2009). All other intersections in the project vicinity are projected to operate at LOS D or better or have lower traffic volumes and delay times than the analyzed intersections. Therefore, CO concentrations at other intersections would be less than concentrations at these analyzed intersections. The basic configuration of the intersections and the receptor locations for a typical intersection are illustrated in Figure 2.2-1.

Table 2.2-9 shows that estimates of one-hour CO concentrations at the intersections range from 6.5 to 7.2 ppm and the eight-hour CO concentrations range from 4.6 to 5.0 ppm. These one-hour CO concentrations are below the 20 ppm state standard and the 35 ppm national standard, and these eight-hour CO concentrations are below the state's 9 ppm standard. Therefore, impacts associated with "CO hotspots" (Guidelines 2(b) and 3(a)) would be **less than significant**.

Diesel-Fired Particulate Matter

Diesel-fired particulate matter has been identified as a TAC. The health risks associated with diesel particulate matter are those related to long-term exposures (i.e., cancer and chronic effects). Long-term health risk effects are generally evaluated for an exposure period of 70 years (i.e., lifetime exposure).

A health risk evaluation was conducted to assess the potential for illness due to exposure to diesel exhaust particulate matter based on Part IV of the *Air Toxics Hot Spots Program Risk Assessment Guidelines* maximum diesel particulate concentration was calculated by the SCREEN3 computer program (which conservatively does not account for particulate settling) and child and adult breathing rates from Part IV of the *Air Toxics Hot Spots Program Risk Assessment Guidelines* were assigned. The assessment results in a cancer risk of 7.7 in one million for children and 5.1 in one million for adults.

Details of the inhalation doses and calculations are included in the air quality technical report included as Appendix D-1 of the EIR.

This SDAPCD Rule 1210 considers an excess cancer risk of one in one million to be a quantifiable risk, while a risk of ten in one million is the level of risk at which the APCD requires public notification. Additionally, the County of San Diego considers the unit health risk guideline of significance to be ten in one million with the use of Toxic-Best Available Control Technology (T-BACT).

On July 26, 2007, CARB adopted the in-use, off-road diesel vehicle regulation to reduce diesel PM and NO_x emissions from in-use heavy-duty diesel equipment (State of California 2007b). The regulation requires any person who owns or operates off-road diesel equipment to apply exhaust retrofits to capture pollutants and to quickly re-power heavy polluting fleets with newer, cleaner engines. The compliance date for large fleets (greater than 5,000 horsepower) is 2010. By complying with the in-use, off-road diesel vehicle regulation, construction equipment would be considered applying T-BACT and the threshold of ten in one million would apply. The Proposed Project would result in cancer risks of 7.7 in one million and 5.1 in one million, less than the applied threshold. Should the construction fleet not meet these in-use, off-road diesel vehicle regulations, impacts associated with exposure to TACs (Guideline 3(b)) would be **significant (AQ-4).**

Toxic Air Emissions

With regard to toxic air emission, the Proposed Project lies outside of the land use avoidance guidelines established by the CARB. The nearest heavily traveled roadways to the Project Site are I-15 and SR-76. The traffic report indicates that year 2030 traffic volumes for I-15 and SR-76 in the project vicinity are projected to be 254,000 ADT and 42,500 ADT, respectively (LOS Engineering 2009). Future traffic on SR-76 adjacent to the Project Site, which is currently characterized by a rural environment, is approximately one half of the 50,000 ADT guideline cited above for a rural roadway. I-15 is more than 1,500 feet from the nearest proposed development. Consequently, the development envisioned by the Proposed Project lies well outside of the land use avoidance guidelines established by the CARB, and therefore, impacts are **less than significant**.

Odors (Guideline 4)

Air quality impacts would be significant if the Proposed Project generates objectionable odors or place sensitive receptors next to existing objectionable odors, which will affect a considerable number of persons or the public. Assessing odor impacts depends on such variables as wind speed, wind direction and the sensitivity of receptors to different odors. The WWTP is proposed to be located in the southern most portion of the site, adjacent to SR-76 and proposed residences.

Odor control would be provided to reduce any potential impacts to the surrounding areas. The preliminary treatment building, equalization basins, and solids dewatering facilities within the WWTP are common places where odors can be generated. These structures would be enclosed and the air would be conveyed to either wet scrubbers or activated carbon odor control units. Pursuant to Section 6300 of the County of San Diego Zoning Ordinance odor control units would be designed to treat odorous air from within treatment structures so not to emit matter causing unpleasant odors which are

perceptible by the average person at or beyond the lot line of the WWTP. The WWTP would be located within relative proximity to residential areas; therefore, odor treatment units would be required to provide a dilution ratio of one volume of odorous air to eight volumes of clean air. The treatment structures for which odor control would be provided are the inlet pump station, preliminary treatment building, equalization basin, and solids handling building. Objectionable levels of odors are not expected within the other treatment structures. Wastewater treatment processes such as aeration and disinfection basins that are not enclosed within buildings would be covered.

Additionally, the Proposed Project intends to use recycled water for on-site irrigation. This process entails the removal of solid material through a treatment process within the WWTP. This recycled water would be used to irrigate the 49.3 acres of existing agricultural land. Recycled water is used regularly throughout the San Diego region and is not associated with odor impacts. Therefore, odor impacts (Guideline 4) associated with the WWTP and use of recycled water would be **less than significant**.

Global Climate Change (Guideline 5)

A significant air quality impact related to global climate change would occur if the Proposed Project would be unable to meet the CEC Tier II Energy Efficiency Goals of a 30 percent reduction over Title 24. The analysis below includes an emissions assessment from both construction and operational sources and a qualitative impact assessment based on CARB recommendations, as well as a discussion of measures that have been incorporated into the project design that would reduce GHG emissions. Emissions were calculated for "business as usual" conditions. "Business as usual" is considered to be development according to the current energy efficiency standards established in Title 24.

The three primary GHGs that would be emitted by the Proposed Project are CO_2, CH_4, and N_2O. These GHGs have varying amounts of GWP. As shown in Table 2.2-4, the 100-year GWP potential for CO_2, CH_4, and N_2O are 1, 21, and 310, respectively. GHG emission factors are summarized below in Table 2.2-10.

TABLE 2.2-10
GHG EMISSION FACTORS

Gas	Vehicle Emission Factors (pounds/gallon)[1]	Electricity Generation Emission Factors (pounds/MWh)[2]	Natural Gas Combustion Emission Factors (pound/million ft^3)[3]
Carbon Dioxide	19.564	1,340	120,000
Methane	0.00055	0.0111	2.3
Nitrous Oxide	0.0002	0.0192	2.2

[1]SOURCE: BAAQMD 2006.
[2]SOURCE: U.S. DOE 2002.
[3]SOURCE: U.S. EPA 1998.

Construction Emissions

Construction GHG emissions could result from heavy construction equipment, worker vehicle miles traveled (VMT), and water usage. Emissions of CO_2 during construction of the Proposed Project were calculated using the URBEMIS 2007 computer program (Rimpo and Associates 2007). The Proposed Project would emit 9,169 pounds per day

of CO_2 during each year from 2012 through 2016 during grading of the Project Site, and approximately 25,890 pounds per day of CO_2 during each year from 2017 through 2024 when operating under "business as usual" conditions. This is equivalent to 1,518 metric tons per year from 2012 through 2016 and 4,286 metric tons per year from 2017 through 2024. As discussed below, the Proposed Project would recycle construction materials as much as possible, decreasing these emissions.

Operational Emissions

Operational sources of GHG emissions include transportation, energy (electricity and natural gas), water use and solid waste.

Transportation

Vehicle emissions were estimated using the emission factors developed by the Bay Area Air Quality Management District (BAAQMD) and the estimated VMT per day estimated by the URBEMIS 2007 computer program for the Proposed Project. The Proposed Project would generate 8,740 ADT (LOS Engineering 2009). The Proposed Project is residential and the vehicle population would likely consist of passenger cars and light trucks. The U.S. EPA estimates that the average fuel economy for passenger cars is 23.9 miles per gallon (mpg) and the average fuel economy for light trucks is 17.4 mpg (U.S. EPA 2005). To be conservative, a fuel economy of 17.4 mpg was used to calculate vehicle emissions. It should also be noted that fuel economy is likely to improve in future years. Vehicle emissions associated with the Proposed Project would generate 16,393.23 metric tons of CO_2 Eq per year.

The Proposed Project incorporates the following measures into the project design related to transportation and motor vehicle use.

- Bike lanes and wide trails and pathways are designed throughout the Proposed Project to promote non-motorized transportation. For example, bicycle riding is encouraged within designated bike lanes along the roadways and a separate 10-foot wide multi use, non-motorized trail along Horse Ranch Creek Road to encourage biking to the town center or to the college campus.

- The design of the Proposed Project encourages residents to walk and bike through their neighborhoods to the on-site school, park and town center, commercial areas, and college located in adjacent proposed projects. For example, Horse Ranch Creek Road which is the main access road to all proposed projects and, as previously discussed, is designed to accommodate non-motorized traffic.

- Long term transit planning includes a transit node in the location of the I-15/SR-76 quadrant.

Circulation within the Proposed Project is accomplished using a system of roadways combined with a trail and sidewalk system for bike and pedestrian use. Interior roads link through the Proposed Project, Campus Park and the Campus Park West properties allowing residents easy access to the planned town center and commercial areas located in these other projects.

Energy Use (Electricity and Natural Gas)

Due to the nature of the electrical grid, it is not possible to predict certainty where electrical power is generated. Therefore, GHG emissions resulting from electricity generation associated with the Proposed Project were estimated using national average emission factors developed by the U.S. Department of Energy (U.S. DOE 2002) and existing electricity consumption rates. In 2006, the average electricity consumption for a residential consumer was 7,080 kilowatt hours per year (kWh) and the average electricity consumption for a commercial consumer was 69,216 kWh per year (U.S. DOE 2006). For the purposes of this analysis, it was assumed that the electricity consumption for the proposed school would be the same as for a commercial consumer. The proposed 844 units and elementary school would consume 6,044,736 kWh (6,044.736 megawatt hours [MWh]) per year. This would result in 3,691.03 metric tons of CO_2 Eq per year. Table 2.2-10 shows the GHG emission factors used for estimating emissions due to electricity generation.

It should also be noted that there are legislative and regulatory efforts underway to specifically reduce GHG emissions from electricity. Implementation of a Renewable Portfolio Standard will require utilities to purchase 20 percent of their electricity from renewable sources resulting in the reduction of GHG emissions by another 13 percent overall. This is not considered in “business as usual” calculations.

GHG emissions resulting from natural gas combustion were estimated using the emission factors developed by the U.S. EPA (1998) and existing natural gas consumption rates. In 2006, the average natural gas consumption rate for a residential consumer was 67,847 cubic feet per year, and the natural gas consumption rate for a commercial consumer was 537,416 cubic feet per year (U.S. DOE 2007). The Proposed Project would consume 57,800,284 cubic feet per year. This would result in 3,165.28 metric tons of CO_2 Eq per year.

The Proposed Project incorporates the following energy efficiency measures:

- Build homes that comply with the U.S. Environmental Protection Agency’s Energy Star criteria, which results in homes that are at least 30% more energy efficient than required by Title 24.

- Outdoor and indoor shaded areas have been implemented into the design of the multi-family planning areas to reduce energy use. Large parking lots have been avoided and plantings throughout the site will provide comfortable living spaces, while reducing energy consumption.

- The Proposed Project will minimize site lighting to that necessary for security, safety, and identification.

Water Use

Water use and energy are often closely linked. The provision of potable water to residents consumes large amounts of energy associated with five stages: source and conveyance, treatment, distribution, end use, and wastewater treatment. This inventory estimated that delivered water for the Proposed Project would have an embodied energy of 2,779 kWh/acre foot or 0.0085 kWh/gallon (Torcellini et al. 2003). The Proposed

Project would require 728,000 gallons per day. The embodied energy demand associated with this water use was converted to GHG emissions with the same electrical grid coefficients as the other purchased electricity. This would result in 1,250.33 metric tons of CO_2 Eq per year.

The Proposed Project incorporates the following water conservation and efficiency measures:

- The Proposed Project shall use either reclaimed water or groundwater to irrigate common areas and retained agricultural groves.
- By utilizing the new stormwater regulations, more efficient irrigation will be used; therefore, reducing the Proposed Project's water demand.
- The Proposed Project shall install low water usage appliances.
- The Proposed Project shall offset the remainder of its delivered water requirement by participating in an offset program with the SDCWA or MWD. The Proposed Project will be required to develop an off-set program in conjunction with annexation into SDCWA or MWD. The goal of these actions is to achieve a net zero project-wide water demand.

Of the 728,000 gpd required by the Proposed Project, the implementation of water conservation and efficiency measures will reduce the overall demand by approximately 25 percent. The amount of delivered water will be further decreased by utilizing recycled wastewater to irrigate the HOA recreational areas, parks, the elementary school fields, common area slopes and existing avocado groves retained on-site. Presently, the existing avocado and citrus groves are irrigated with groundwater on the property. This same groundwater will continue to be utilized on the retained avocado groves during drier months to supplement recycled water supplies, further reducing the delivered water requirement. Finally, the Proposed Project shall offset the remainder of its delivered water requirement by participating in an offset program with the SDCWA or MWD. The goal of these actions is to achieve a net zero project-wide water demand.

Solid Waste

The disposal of solid waste produces GHG emissions from anaerobic decomposition in landfills, incineration, transportation of waste, and disposal. It was assumed that multi-family residential developments would generate 1.2 tons per year per unit. The Proposed Project would therefore generate 567.6 tons of solid waste per year. The U.S. EPA's' WARM was used to calculate the GHG emissions due to solid waste generated by the Proposed Project. WARM divides solid waste into many different categories including yard trimmings, paper products, metals, aluminum, glass, food waste, plastics, and other materials. An estimate of the distribution of these materials was obtained from the U.S. EPA (2008). The solid waste associated with the Proposed Project would generate 342 metric tons of CO_2 Eq per year.

The Proposed Project incorporates the following measures to reduce the generation of solid waste:

- The Proposed Project will meet or exceed the requirements of the County's Construction and Demolition Debris Ordinance (Sections 68.508 through 68.518 of the County Code of Regulatory Ordinances) that requires recycling of 90 per cent of inerts and 70 per cent of other materials.

- Recycling bins as well as trash bins will be provided to each resident.

- The Proposed Project will conform to the applicable County recycling activities.

Total Greenhouse Gas Emissions

Table 2.2-11 shows the projected GHG emissions, expressed as equivalent CO_2 emissions, resulting from the Proposed Project under "business as usual" conditions.

TABLE 2.2-11
"BUSINESS AS USUAL" GHG EMISSIONS
(metric tons/year)

Emission Source	CO_2	N_2O	CH_4	Total CO_2 Eq[1]
Electricity Usage Emissions	3,674.07	0.05	0.03	3,691.03
Natural Gas Usage Emissions	3,146.13	0.06	0.06	3,165.28
Water Usage Emissions	1,244.59	0.02	0.01	1,250.33
Vehicular Emissions	16,331.83	0.17	0.46	16,393.23
Solid Waste Emissions	n/a	n/a	n/a	342.00
Total CO_2 Eq[1]				24,841.87

[1] Equivalent - Totals may vary from the sum of the sources due to independent rounding.

As shown, the Proposed Project is projected to emit 24,841.87 metric tons of CO_2 Eq per year under "business as usual" conditions.

The California Environmental Quality Act; Addressing Global Warming Impacts at the Local Agency Level (State of California 2008c) provides a list of measures appropriate for minimization of potentially significant effects of global climate change. Many of the design measures detailed above are included in this list. Implementation of these measures will allow the Proposed Project to meet the CEC recommendations for a Tier II goal for residential and commercial projects equivalent to a 30 percent reduction compared to business as usual (Title 24 standards). Therefore, global climate change impacts from the Proposed Project would be **less than significant**.

2.2.4 Cumulative Impact Analysis

Because air quality is a regional issue, the cumulative study area for air quality impacts cannot be limited to a defined localized area, but rather include the SDAB as a whole. Therefore impacts to regional plans and policies, such as the RAQS and SIPs, must be considered as part of the cumulative analysis. Additionally, a project will have a significant cumulative impact on air quality if it would result in a cumulatively considerable net increase of any criteria pollutant for which the SDAB is listed as nonattainment under an applicable CAAQS. As previously stated, the SDAB is currently classified as a nonattainment area for PM_{10} and O_3.

RAQS/SIP Impacts (Guideline 1)

As discussed under direct impacts, because the Proposed Project includes densities not currently described in the General Plan or Fallbrook CP, the Proposed Project is not represented in SANDAG growth forecasts nor included in the current RAQS or SIP. Because the entire air basin is affected by project level impacts, the Proposed Project would result in a **significant cumulative impact (AQ-5)**.

Violation of Air Quality Standards (Guideline 2)

Construction-Related Emissions

$PM_{2.5}$ and PM_{10} emissions associated with construction activities generally result in "near field" impacts, generally within one mile or less of the Project Site. The Palomar College, Campus Park and Campus Park West projects are within a one mile radius. These projects, if constructed at the same time as the Proposed Project, could result in a cumulative impact due to particulate emissions. Cumulatively considerable net increases in pollutant emissions during the construction phase would typically happen if two or more projects near each other are simultaneously constructing projects. Although construction of these other projects is beyond the control of the Proposed Project, it is unlikely all will be constructed at the same time. As discussed above, the Proposed Project would be required to implement standard dust control measures during construction as well as conform to SCAQMD regulations for the application of architectural coatings. Therefore, because fugitive dust impacts are localized and all construction sites would be required to adhere to the same regulations, cumulative impacts resulting from $PM_{2.5}$ and PM_{10} emissions from simultaneous construction activity within the project vicinity would be **less than significant**.

As discussed above, construction of the Proposed Project would result in emissions of diesel-fired particulate matter. If neighboring projects were to be constructed at the same time as the Proposed Project, emissions of diesel-fired particulate matter from construction equipment could result in a cumulative impact. Should the construction fleet not meet these in-use, off-road diesel vehicle regulations discussed above, impacts associated with exposure to TACs (Guideline 3(b)) would be **significant (AQ-6).**

On-site Operation and Area Source Emissions

Implementation of the Proposed Project will result in the violation of air quality standards related to PM_{10} and ROG. These emissions would continue to be above the significance thresholds despite project design measures. Therefore, the Proposed Project would have a **cumulatively significant impact (AQ-7)**.

Sensitive Receptors (Guideline 3)

CO Hot Spots

A CO "hot spot" impact could result in the vicinity of the Project Site due to traffic from cumulative projects. The TIS identified 95 nearby projects which are anticipated to generate traffic on the same roadways as the Proposed Project. These projects were included in the CO modeling based on the CO "hot spot" evaluation; therefore cumulative impacts associated with traffic emissions would be **less than significant**.

Odors (Guideline 4)

Odor impacts for the Proposed Project would be less than significant. As there is no existing regional cumulative odor issue, the contribution from the Proposed Project would not cause or contribute to a cumulative odor impact. Therefore, cumulative odor impacts would be **less than significant**.

Global Climate Change (Guideline 5)

Forecasts for GHG emissions are not available. The completion of a statewide emissions inventory as required by AB32 may be helpful is establishing a baseline forecast for analysis of GHG emissions in future CEQA documents.

Implementation of the Proposed Project would result in GHG emissions as discussed above. Significant direct impacts associated with those emissions are not anticipated due to features incorporated into the Proposed Project that would result in 30 percent reduction in emissions compared to "business as usual." The implementation of these design measures would avoid significant direct impacts and cumulative impacts would be **less than significant**.

2.2.5 Mitigation Measures Proposed to Minimize the Significant Effects

AQ-1/AQ-5: The Proposed Project is not considered in SANDAG growth projects and thus is not consistent with RAQS and the SIP. Until SANDAG updates the RAQS and SIP, there is no feasible mitigation available to reduce this impact, thus impacts would be **significant and unmitigable**.

AQ-2: During the architectural coatings painting phase of construction, the applicant shall use interior coatings with a VOC content less than or equal to 50 grams per liter; residential exterior coatings with a content less than or equal to 100 grams per liter; and non-residential exterior and interior coatings with a content less than or equal to 250 grams per liter.

AQ-4/AQ-6: To utilize Toxic-Best Available Control Technology (T-BACT) and mitigate for impacts, the applicant shall ensure that 10 percent of the construction fleet uses any combination of diesel catalytic converters, diesel oxidation catalysts, diesel particulate filters and/or CARB certified Tier I, II, or III equipment.

AQ-3/AQ-7: The Proposed Project design would promote walking, bicycle riding, and horseback riding as alternative forms of transportation to motorized vehicles and would reduce the projected operational emissions. However, this will not completely reduce emissions to a level below significance. No additional feasible mitigation is available, thus impacts would remain **significant and unmitigable**.

2.2.6 Conclusion

Consistency with RAQS/SIP

Implementation of the Proposed Project would conflict with the existing San Diego RAQS and applicable SIP because the density proposed is not consistent with current land use plans and SANDAG housing forecasts (AQ-1 and AQ-5). This represents a significant impact for which there is no available feasible mitigation. Therefore, upon implementation of the Proposed Project, the direct and cumulative impacts will remain significant and unmitigable.

The existing SANDAG forecasts for regional growth are based on the Regional Comprehensive Plan for the San Diego Area (RCP) that was adopted in 2004, stating, "the RCP will function as a 'living' document, evolving over time as specific policies and programs are advanced. It will be updated every few years to reflect the region's accomplishments, add new topics that weren't included in this initial RCP, and address the region's changing needs." The 2007 annual monitoring report finds that the "region continues to experience serious housing affordability problems."

In order to address growth and housing needs, the County of San Diego is in the process of updating its General Plan, which specifically proposes to recognize the Project Site and surrounding areas as a region designated for increased housing. The Proposed Project is still being proposed as designed because, although inconsistent with the current SANDAG forecasts, it will serve to meet the proposed needs of the County General Plan update. In addition to addressing affordable housing, implementation of the Proposed Project would address the need for diversity in housing types.

Construction-Related Emissions

Construction of the Proposed Project would be significant and the applicant is required to use architectural coating with low VOC content and meet T-BACT standards (AQ-2, AQ-4, and AQ-6). Implementation of the mitigation measures discussed above would reduce all direct and cumulative impacts to a level less than significant.

On-site Operation-Related Emissions

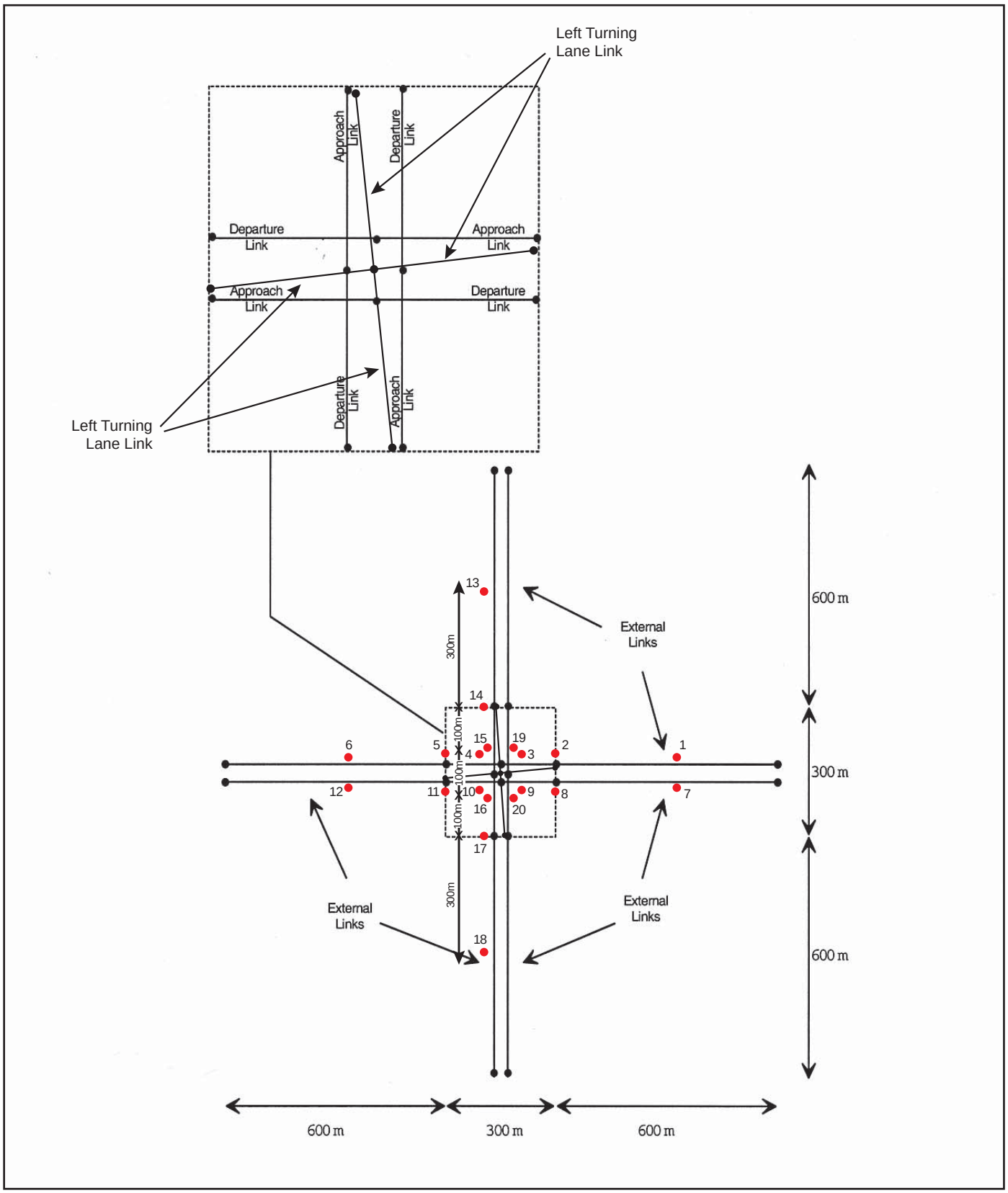
Implementation of the Proposed Project would result in on-site traffic and area source emissions greater than the applicable thresholds for ROG, and PM_{10} (AQ-3 and AQ-7). Project design considerations such as complete sidewalk coverage, internal trails, and paved shoulders for bicycle use, would promote walking, bicycle riding, and horseback riding as alternative forms of transportation and reduce traffic and area source emissions. In addition, future retail uses proposed within the Campus Park project and future bus service would further reduce vehicle trips. Even with these design measures, direct and cumulative impacts associated with emissions of ROG, and PM_{10} remain significant and unmitigable based on the URBEMIS 2007 air quality model. This model however, does not include anticipated reductions to air emissions resulting from recent regulations on motor vehicles. These regulations on future motor vehicles would further reduce ROG and PM_{10} emissions, although the reduction cannot be quantified at this time. Otherwise, the only way to reduce these emissions is to reduce the VMT. Therefore, no feasible mitigation exists to reduce the remaining significant impact

associated with operational emissions. Proposed alternatives that would result in fewer VMT are discussed in Chapter 5.

As currently designed, the Proposed Project will allow the County to address some of its current and projected challenges in relation to an increased population that requires affordable housing and diversity of housing types. The Proposed Project and its surrounding area have been targeted in the Draft General Plan Update as a region that could support increased population. The result is that multiple projects are proposing development which will change the existing land usages to urban land usage, increasing air quality related impacts. Although each project will likely provide design measures, like the Proposed Project, both direct and cumulative impacts within the region is unavoidable. Therefore, significant direct and cumulative impacts will remain. A Statement of Overriding Considerations would be required to be adopted to address this significant and unmitigated impact.

Global Climate Change

There are no established thresholds for GHG emissions at this time; however, state and federal mandated reductions creates the goal for the Proposed Project's 30 percent reduction in "business as usual" GHG emissions. The Proposed Project includes a number of project features resulting in the avoidance of potentially significant impacts resulting from GHG emissions. These include measures that will increase energy efficiency, and water conservation, and decrease solid waste production and motor vehicle emissions. Implementation of the project design measures listed above the Proposed Project will decrease "business as usual" emissions of GHGs by the goal of 30 percent. Therefore, impacts associated with global climate change will be less than significant.



● Receptors at 3m from edge of roadway and 1.8m high

● Link end point

FIGURE 2.2-1

Link and Receptor Network For a Single Intersection with Dedicated Left Turn Lanes

RECON

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TABLE 2.2-1
AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	California Standards[1]		Federal Standards[2]		
		Concentration[3]	Method[4]	Primary[3,5]	Secondary[3,6]	Method[7]
Ozone (O_3)	1 Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	--	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.07 ppm (137 µg/m^3)		0.075 ppm (147 µg/m^3)		
Respirable Particulate Matter (PM_{10})	24 Hour	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetic Analysis
	Annual Arithmetic Mean	20 µg/m^3		--		
Fine Particulate Matter ($PM_{2.5}$)	24 Hour	No Separate State Standard		35 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetic Analysis
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	15 µg/m^3		
Carbon Monoxide (CO)	8 Hour	9.0 ppm (10 mg/m^3)	Non-dispersive Infrared Photometry (NDIR)	9 ppm (10 mg/m^3)	None	Non-dispersive Infrared Photometry (NDIR)
	1 Hour	20 ppm (23 mg/m^3)		35 ppm (40 mg/m^3)		
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		--	--	--
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)	Gas Phase Chemilumine-scence	0.053 ppm (100 µg/m^3)	Same as Primary Standard	Gas Phase Chemiluminescence
	1 Hour	0.18 ppm (339 µg/m^3)		--		
Lead[8]	30 days average	1.5 µg/m^3	Atomic Absorption	--	--	High Volume Sampler and Atomic Absorption
	Calendar Quarter	--		1.5 µg/m^3	Same as Primary Standard	
	Rolling 3-Month Average[9]	--		0.15 µg/m^3		
Sulfur Dioxide (SO_2)	Annual Arithmetic Mean	--	Ultraviolet Fluorescence	0.030 ppm (80 µg/m^3)	--	Spectrphotomerty (Pararosoaniline Method)
	24 Hour	0.04 ppm (105 µg/m^3)		0.14 ppm (365 µg/m^3)	--	
	3 Hour	--		--	0.5 ppm (1300 µg/m^3)	
	1 Hour	0.25 ppm (665 µg/m^3)		--	--	
Visibility Reducing Particles	8 Hour	Extinction coefficient of 0.23 per kilometer –visibility of 10 miles or more (0.07 – 30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70 percent. Method: Beta Attenuation and Transmittance through Filter Tape.		No Federal Standards		
Sulfates	24 Hour	25 µg/m^3	Ion Chroma-tography	No Federal Standards		
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence	No Federal Standards		
Vinyl Chloride[8]	24 Hour	0.01 ppm (26 µg/m^3)	Gas Chroma-tography	No Federal Standards		

SOURCE: State of California 2008a.

ppm = parts per million; $\mu g/m^3$ = micrograms per cubic meter.

[1]California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, suspended particulate matter—PM_{10}, $PM_{2.5}$, and visibility reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

[2]National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest eight-hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when 99 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact U.S. EPA for further clarification and current federal policies.

[3]Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25º C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25º C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

[4]Any equivalent procedure which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.

[5]National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.

[6]National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

[7]Reference method as described by the U.S. EPA. An “equivalent method” of measurement may be used but must have a “consistent relationship to the reference method” and must be approved by the U.S. EPA.

[8]The ARB has identified lead and vinyl chloride as “toxic air contaminants” with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

[9]National lead standard, rolling 3-month average: final rule signed October 15, 2008.

TABLE 2.2-2
AMBIENT AIR QUALITY SUMMARY – SAN DIEGO AIR BASIN

Pollutant	Average Time	California Ambient Air Quality Standards[a]	Attainment Status	National Ambient Air Quality Standards[b]	Attainment Status[c]	Maximum Concentration					Number of Days Exceeding State Standard					Number of Days Exceeding National Standard				
						2003	2004	2005	2006	2007	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
O_3	1 hour	0.09 ppm	N	N/A	N/A	.125	.129	.113	.121	.134	24	12	16	23	21	1	1	0	0	0
O_3	8 hours	0.07ppm	N	0.08 ppm	N	.103	.095	.089	.100	.092	N/A	N/A	N/A	N/A	50	6	8	5	14	7
CO	1 hour	20 ppm	A	35 ppm	A	12.70	6.90	Na	Na	Na	0	0	Na	Na	Na	0	0	Na	Na	Na
CO	8 hours	9.0 ppm	A	9 ppm	A	10.64	4.11	4.71	3.61	5.18	1	0	0	0	0	1	0	0	0	0
NO_2	1 hour	0.18 ppm*	A	N/A	N/A	.148	.125	.109	.097	.101	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A
NO_2	Annual	0.030 ppm*	N/A	0.053 ppm	A	.019	.017	.015	.017	.015	N/A	N/A	N/A	N/A	N/A	NX	NX	NX	NX	NX
SO_2	1 hour	25 pphm	A	N/A	N/A	.036	.045	Na	Na	Na	0	0	Na	Na	Na	N/A	N/A	N/A	N/A	N/A
SO_2	24 hours	4 pphm	A	14 pphm	A	.020	.016	Na	Na	Na	0	0	Na	Na	Na	0	0	Na	Na	Na
SO_2	Annual	N/A	N/A	3 pphm	A	Na	Na	Na	Na	Na	N/A	N/A	N/A	N/A	N/A	Na	Na	Na	Na	Na
PM_{10}	24 hours	50 $\mu g/m^3$	N	150 $\mu g/m^3$	N	289	138	154	134	394	150.7	174.5	13.1	159.4	159.0	9.2	0	5.8	0	6
PM_{10}	Annual	20 $\mu g/m^3$	N	N/A	N/A	52.6	51.7	28.6	54.1	59	EX	EX	EX	EX	EX	N/A	N/A	N/A	N/A	N/A
$PM_{2.5}$	24 hours	N/A	N/A	35 $\mu g/m^3$	A	Na	Na	Na	Na	Na	Na	Na	Na	Na	Na	Na	Na	Na	Na	Na
$PM_{2.5}$	Annual	12 $\mu g/m^3$	A	15 $\mu g/m^3$	A	Na	Na	Na	Na	Na	Na	Na	Na	Na	Na	Na	Na	Na	Na	Na

SOURCE: State of California 2006, 2008b.
*This concentration was approved by the Air Resources Board on February 22, 2007. New 1-hour and annual concentrations would not have been exceed during the years 2003 through 2007.
[a]California standards for ozone, carbon monoxide (except at Lake Tahoe), sulfur dioxide (1-hour and 24-hour), nitrogen dioxide, and PM_{10} are values that are not to be exceeded. Some measurements gathered for pollutants with air quality standards that are based upon 1-hour, 8-hour, or 24-hour averages, may be excluded if the CARB determines they would occur less than once per year on average.
[b]National standards other than for ozone and particulates, and those based on annual averages or annual arithmetic means are not to be exceeded more than once a year. The 1-hour ozone standard is attained if, during the most recent 3-year period, the average number of days per year with maximum hourly concentrations above the standard is equal to or less than one.
[c]A = attainment; N = non-attainment; N/A = not applicable; Na = data not available; NX = annual average not exceeded; EX = annual average exceeded.
NOTE: Federal 1 hour ozone standard revoked in SDAB on June 15, 2005
ppm = parts per million, pphm = parts per hundred million, $\mu g/m^3$ = micrograms per cubic meter.
Calculated days are the estimated number of days that a measurement would have been greater than the level of the standard had measurements been collected every day. The number of days above the standard is not necessarily the number of violations of the standard for the year.

TABLE 2.2-3
SUMMARY OF AIR QUALITY MEASUREMENTS RECORDED
AT THE ESCONDIDO EAST VALLEY PARKWAY MONITORING STATION

Pollutant/Standard	2003	2004	2005	2006	2007
Ozone					
Days State 1-hour Standard Exceeded (0.09 ppm)	3	2	1	3	0
Days Federal 1-hour Standard Exceeded (0.12 ppm)	0	0	0	0	0
Days Federal 8-hour Standard Exceeded (0.08 ppm)	0	2	0	2	0
Days State 8-hour Standard Exceeded (0.07 ppm)	9	9	2	11	5
Max. 1-hr (ppm)	0.105	0.099	0.095	0.108	0.094
Max 8-hr (ppm)	0.083	0.086	0.079	0.096	0.077
Carbon Monoxide					
Days State 8-hour Standard Exceeded (20 ppm)	1	0	0	0	0
Days Federal 8-hour Standard Exceeded (35 ppm)	1	0	0	0	0
Max. 1-hr (ppm)	12.7*	6.3	5.9	5.7	5.2
Max. 8-hr (ppm)	10.64	3.61	3.10	3.61	3.19
Nitrogen Dioxide					
Days State 1-hour Standard Exceeded (0.25 ppm)	0	0	0	0	0
Max 1-hr (ppm)	0.135	0.080	0.076	0.071	0.072
Annual Average (ppm)	0.020	0.018	0.016	0.017	0.016
PM_{10}					
Days State 24-hour Standard Exceeded (50 $\mu g/m^3$)	30.7	6.1	0	5.8	11.5
Days Federal 24-hour Standard Exceeded (150 $\mu g/m^3$)	3.3	0	0	0	0
Max. Daily ($\mu g/m^3$)	179*	57	42	51	68
State Annual Average ($\mu g/m^3$)	32.7	27.3	23.9	24.2	26.9
Federal Annual Average ($\mu g/m^3$)	31.6	27.5	23.9	24.1	26.7
$PM_{2.5}$					
Days Federal 24-hour Standard Exceeded (65 $\mu g/m^3$)	1	1	0	0	2
Max. Daily ($\mu g/m^3$)	69.2	67.3	43.1	40.6	126.2*
Annual Average ($\mu g/m^3$)	14.2	14.1	Na	11.5	13.3

SOURCE: State of California 2006, 2008b.
Na = not available
Lead concentrations in the SDAB have not exceeded the state or federal standard during at least the past 10 years.
*The measurement was taken during the San Diego County forest fire and, therefore, is not an accurate representation of ambient conditions.

TABLE 2.2-4
GLOBAL WARMING POTENTIALS (GWP) AND ATMOSPHERIC LIFETIMES (YEARS) USED IN THE INVENTORY

Gas	Atmospheric Lifetime	100-year GWP[a]
Carbon Dioxide (CO_2)	50-200	1
Methane (CH_4)[b]	12±3	21
Nitrous oxide (N_20)	120	310
HFC-23	264	11,700
HFC-125	32.6	2,800
HFC-134a	14.6	1,300
HFC-143a	48.3	3,800
HFC-152a	1.5	140
HFC-227ea	36.5	2,900
HFC-236fa	209	6,300
HFC-4310mee	17.1	1,300
CF_4	50,000	6,500
C_2F_6	10,000	9,200
C_4F_{10}	2,600	7,000
C_6F_{14}	3,200	7,400
SF_6	3,200	23,900

SOURCE: U.S. EPA 2002.
[a]GWPs used here are calculated over 100-year time horizon.
[b]The methane GWP includes the direct effects and those indirect effects due to the production of tropospheric ozone and stratospheric water vapor. The indirect effect due to the production of CO_2 is not included.

TABLE 2.2-5
SCREENING-LEVEL CRITERIA FOR AIR QUALITY IMPACT ANALYSIS

	Total Emissions	
Pollutant	Lb. Per Hour	Lb. Per Day
Respirable Particulate Matter (PM_{10})	---	100
Oxides of Nitrogen (NOx)	25	250
Oxides of Sulfur (SOx)	25	250
Carbon Monoxide (CO)	100	550
Lead and Lead Compounds	---	3.2
Volatile Organic Compounds (VOCs)*	---	75

*The threshold for VOCs is based on the guideline of significance for reactive organic gases from Chapter 6 of the CEQA Air Quality Handbook of the South Coast Air Quality Management District (SCAQMD 1993). This standard is appropriate because the meteorological data associated with the project is similar to characteristics of the San Coast Air Basin.

TABLE 2.2-6
CONSTRUCTION PARAMETERS

Phase	Length of Phase (Weeks)	Equipment Used	Horse-power	Load Factor	Hours/ Day
Demolition	2	3 Excavators	168.00	0.570	8.0
		2 Rubber Tired Dozers	357.00	0.590	8.0
Mass Site Grading	153	1 Excavator	168.00	0.570	8.0
		1 Grader	174.00	0.610	8.0
		1 Rubber-Tired Dozer	357.00	0.590	8.0
		3 Scrapers	313.00	0.720	8.0
		3 Tractor/Loader/Backhoe	108.00	0.550	8.0
		1 Water Truck	189.00	0.500	8.0
Fine Site Grading	66	1 Excavator	168.00	0.570	8.0
		1 Grader	174.00	0.610	8.0
		1 Rubber-Tired Dozer	357.00	0.590	8.0
		3 Scrapers	313.00	0.720	8.0
		3 Tractor/Loader/Backhoe	108.00	0.550	8.0
		1 Water Truck	189.00	0.500	8.0
Trenching	22	2 Excavators	168.00	0.570	8.0
		1 Other General Industrial Equipment	238.00	0.510	8.0
		1 Tractor/Loader/Backhoe	108.00	0.550	8.0
Paving	22	1 Paver	100.00	0.620	8.0
		2 Paving Equipment	104.00	0.530	8.0
		2 Roller	95.00	0.560	6.0
Building Construction	385	1 Crane	399.00	0.430	7.0
		3 Forklifts	145.00	0.300	8.0
		1 Generator Set	49.00	0.740	8.0
		3 Tractor/Loader/Backhoe	108.00	0.550	7.0
		1 Welders	45.00	0.450	8.0
Architectural Coatings	53	N/A	N/A	N/A	N/A

SOURCE: Rimpo and Associates 2007.
NOTE: Load Factor = percentage of time equipment uses the full load potential.
N/A = Not Applicable

TABLE 2.2-7
SUMMARY OF WORST-CASE CONSTRUCTION EMISSIONS WITHOUT MITIGATION
(pounds/day)

Year	ROG	NO_x	CO	Sox[1]	PM_{10} Dust	PM_{10} Exhaust	PM_{10}	$PM_{2.5}$ Dust	$PM_{2.5}$ Exhaust	$PM_{2.5}$
2012	10	84	45	0	97	4	100	20	4	24
2013	10	79	42	0	97	4	100	20	3	24
2014	9	73	41	0	97	3	100	20	3	23
2015	9	67	39	0	97	3	100	20	3	23
2016	8	62	38	0	97	3	99	20	3	23
2017	6	30	122	0	1	2	3	0	2	2
2018	6	27	115	0	1	2	3	0	1	2
2019	5	25	108	0	1	1	2	0	1	2
2020	5	23	101	0	1	1	2	0	1	2
2021	4	19	77	0	1	1	2	0	1	1
2022	4	19	77	0	1	1	2	0	1	
2023	4	19	77	0	1	1	2	0	1	1
2024	74	19	77	0	1	1	2	0	1	1
2025	74	0	1	0	0	0	0	0	0	0
SDAPCD Guideline of Significance[2]	75	250	550	250	--	--	100	--	--	55

[1]Emissions calculated by URBEMIS 2007 are for SO_2.
[2]Thresholds for ROG and $PM_{2.5}$ were obtained from the SCAQMD.

TABLE 2.2-8
PROJECT (YEAR 2025) AVERAGE DAILY EMISSIONS TO THE SAN DIEGO AIR BASIN
(pounds/day)

Season	Pollutant	Area Source Emission	Operational (Vehicle) Emission	Total Emission	SDAPCD Significance Threshold[2]
Summer	ROG	54	36	**90**	75
	NOx	16	31	47	250
	CO	30	365	395	550
	SOx[1]	0	1	1	250
	PM10	0	143	**143**	100
	PM2.5	0	28	28	55
Winter	ROG	51	33	**84**	75
	NOx	22	46	68	250
	CO	11	361	383	550
	SOx[1]	0	1	1	250
	PM10	0	143	**143**	100
	PM2.5	0	28	28	55

SDAPCD = San Diego Air Pollution Control District

[1] Emissions calculated by URBEMIS 2007 are for SO_2.
[2] Thresholds for ROG and $PM_{2.5}$ were obtained from the SCAQMD.

TABLE 2.2-9
TRAFFIC RELATED CO CONCENTRATIONS
(ppm)*

Receiver	SR-76 at I-15 Southbound Ramp		SR-76 at I-15 Northbound Ramp		SR-76 at Pankey Road		Old Highway 395 at Pala Mesa Drive	
	1-Hour Concentration	8-Hour Concentration	1-Hour Concentration	8-Hour Concentration	1-Hour Concentration	8-Hour Concentration	1-Hour Concentration	8-Hour Concentration
1	7.0	4.9	7.2	5.0	7.0	4.9	6.5	4.6
2	7.2	5.0	7.1	5.0	7.1	5.0	6.5	4.6
3	7.1	5.0	7.1	5.0	7.1	5.0	6.5	4.6
4	7.1	5.0	7.2	5.0	7.1	5.0	6.6	4.6
5	7.1	5.0	7.2	5.0	7.1	5.0	6.5	4.6
6	7.2	5.0	7.2	5.0	7.1	5.0	6.5	4.6
7	7.1	5.0	7.2	5.0	7.1	5.0	6.5	4.6
8	7.1	5.0	7.2	5.0	7.1	5.0	6.5	4.6
9	7.1	5.0	7.2	5.0	7.2	5.0	6.5	4.6
10	7.1	5.0	7.1	5.0	7.1	5.0	6.5	4.6
11	7.1	5.0	7.1	5.0	7.1	5.0	6.5	4.6
12	7.1	5.0	7.0	4.9	7.1	5.0	6.5	4.6
13	6.6	4.6	6.6	4.6	6.7	4.7	6.6	4.6
14	6.7	4.7	6.6	4.6	6.7	4.7	6.7	4.7
15	6.8	4.8	6.7	4.7	6.8	4.8	6.6	4.6
16	6.7	4.7	6.7	4.7	6.8	4.8	6.6	4.6
17	6.7	4.7	6.7	4.7	6.8	4.8	6.6	4.6
18	6.8	4.8	6.6	4.6	6.8	4.8	6.6	4.6
19	6.7	4.7	6.9	4.8	6.8	4.8	6.7	4.7
20	6.7	4.7	6.9	4.8	6.7	4.7	6.7	4.7

*Assumes 6.30 ppm background hourly concentrations.

2.3 Transportation/Traffic

The following discussion is based on the Traffic Impact Study (TIS) (2009) to evaluate possible traffic impacts for the Proposed Project. The complete traffic study is included in this EIR as Appendix E. For the purpose of the TIS and the traffic impact section of the EIR, the Proposed Project includes 355 single-family detached dwelling units, 503 multi-family dwelling units, a 10.1-acre neighborhood park, and an elementary school. The actual Proposed Project is composed of 355 single-family and 489 multi-family homes. Therefore, the analysis provides a worst-case scenario.

2.3.1 Existing Conditions

Existing Roadway Characteristics

The study area, as shown in Figure 2.3-1, has a defined limit of where 50 and 25 peak hour project trips will travel. The 50 peak hour project trip study area is utilized for existing + project, horizon year, and horizon year + project conditions (scenarios where the Proposed Project will add 50 peak hour trips to determine potential direct impacts). The 25 peak hour study area is used for existing, existing + cumulative, and existing + cumulative + project conditions (scenarios where potential cumulative impacts are calculated). The existing transportation conditions are shown on Figure 2.3-2 and described for the larger 25 peak hour study area, which include:

I-15 in the vicinity of the Proposed Project is classified as a *Freeway* on the September 2005 San Diego County Circulation Element map. I-15 from Rainbow Valley Boulevard to Escondido Highway (Old Highway 395) is constructed as an eight-lane divided freeway with a center divider. The posted speed limit is 70 mph along I-15 in the vicinity of the Proposed Project Site.

SR-76 (Pala Road) from Melrose Drive to S. Mission Road is classified as an *Expressway*; from S. Mission Road to I-15 is classified as a *Prime Arterial with bike lanes* and from I-15 to Pala Mission Road is classified as a *Major Road with bike lanes* on the September 2005 San Diego County Circulation Element map. SR-76 is constructed with varying configurations as discussed in the TIS. SR-76, from the I-15 NB Ramp easterly a distance of approximately 1.4 miles, is currently being widened from two to four lanes. This widening is anticipated to be completed before the Proposed Project will request certificates of occupancy. Therefore, the SR-76 segment analyses used two lanes for existing conditions and four lanes for all other scenarios.

SR-76 has two identified widening projects that include the Caltrans SR-76 Middle Project (from approximately Melrose Drive to S. Mission Road) and the Caltrans SR-76 East Project (from approximately S. Mission Road to the I-15 SB Ramp). On October 24, 2008, the SANDAG Board approved the redistribution of funds between SR-76 corridor projects to fully fund the construction phase of the Caltrans SR-76 Middle Project. The estimated completion date for the Caltrans SR-76 Middle Project is 2012. The Caltrans SR-76 East Project has identified TransNet as a funding source and the current estimate of completion is 2015.

Old Highway 395 from Mission Road to Dulin Road is classified as a *Collector with bike lanes* and from Dulin Road to W. Lilac Road is classified as a *Rural Collector with bike lanes* on the September 2005 San Diego County Circulation Element map. Old Highway

395 is generally constructed as a two-lane undivided roadway with a shoulder.

Pankey Road from Stewart Canyon Road to Dulin Road is classified as a *Light Collector* on the September 2005 San Diego County Circulation Element map. From Stewart Canyon Road to a terminus cul-de-sac approximately 0.7 mile to the south, Pankey Road is constructed with approximately 32 feet of pavement. From SR-76 south to Shearer Crossing (connects to Dulin Road), Panky Road is constructed with approximately 40 feet of pavement and one travel lane in each direction.

Stewart Canyon Road from Old Highway 395 to Pankey Road is classified as a *Rural Collector* on the September 2005 San Diego County Circulation Element map. Stewart Canyon Road from Old Highway 395 to Pankey Road is generally constructed as a two-lane undivided roadway within approximately 40 feet of pavement.

Study Area Intersections and Street/State Route Segments

The following are the study area intersections analyzed in the TIS:

1) SR-76 (Pala Road)/Via Monserate
2) SR-76 (Pala Road)/Gird Road
3) SR-76 (Pala Road)/Sage Road
4) SR-76 (Pala Road)/Old Highway 395
5) SR-76 (Pala Road)/I-15 Southbound Ramp
6) SR-76 (Pala Road)/I-15 Northbound Ramp
7) SR-76 (Pala Road)/Pankey Road
8) SR-76 (Pala Road)/Horse Ranch Creek Road – Future Intersection
9) SR-76 (Pala Road)/Rice Canyon Road
10) SR-76 (Pala Road)/Couser Canyon Road
11) Old Highway 395/Pala Mesa Drive
12) Old Highway 395/Stewart Canyon Road
13) Old Highway 395/Reche Road
14) Mission Road/Old Highway 395
15) Mission Road/I-15 SB Ramp
16) Mission Road/I-15 NB Ramp
17) Stewart Canyon Road/Pankey Road
18) SR-76 (Mission Road) / E. Vista Road
19) SR-76 (Mission Road) / North River Road
20) SR-76 (Mission Road) / Olive Hill Road
21) SR-76 (Mission Road) / S. Mission Road
22) SR-76 (Pala Road) / Pala Mission Road

The street/State Route segments within the TIS study area are listed as follows:

1) SR-76 (Mission Road) from E. Vista Way to North River Road
2) SR-76 (Mission Road) from North River Road to Olive Hill Road
3) SR-76 (Mission Road) from Olive Hill Road and S. Mission
4) SR-76 (Pala Road) from S. Mission Road to Via Monserate
5) SR-76 (Pala Road) from Via Monserate to Gird Road
6) SR-76 (Pala Road) from Gird Road to Sage Road
7) SR-76 (Pala Road) from Sage Road to Old Highway 395

8) SR-76 (Pala Road) from Old Highway 395 to I-15 SB Ramp
9) SR-76 (Pala Road) from I-15 SB Ramp to I-15 NB Ramp
10) SR-76 (Pala Road) from I-15 NB Ramp to Pankey Road
11) SR-76 (Pala Road) from Pankey Road to Horse Ranch Creek
12) SR-76 (Pala Road) from Horse Ranch Creek Road to Rice Canyon Road
13) SR-76 (Pala Road) from Rice Canyon Road to Couser Canyon Road
14) SR-76 (Pala Road) from Couser Canyon Road to Pala Mission Road
15) Old Highway 395 from E. Mission Road to Reche Road
16) Old Highway 395 from Reche Road to Stewart Canyon Road
17) Old Highway 395 from Pala Mesa Drive to SR-76 (Pala Road)
18) Stewart Canyon Road from Old Highway 395 to Pankey Road
19) Pankey Road south of Stewart Canyon Road
20) Pankey Road from SR-76 (Pala Road) to Dulin Road

Study Area Freeway Segments

The following freeway segment volumes (from Caltrans web site documenting year 2007 volumes) were analyzed as part of this study:

1) I-15 from Rainbow Valley Boulevard to Mission Road
2) I-15 from Mission Road to SR-76 (Pala Road)
3) I-15 from SR-76 (Pala Road) to Escondido Highway (Old Highway 395)

Existing Levels of Service

Level of Service (LOS) designations comprise a professional industry standard by which the operating condition of a given roadway segment or intersection is measured. LOS is defined using letter designations from "A" to "F," wherein LOS A represents the best operating conditions and LOS F represents the worst operating conditions. LOS A facilities are characterized as having free-flowing traffic conditions with no restrictions on maneuvering or operating speeds; traffic volumes are low and travel speeds are high. LOS F facilities are characterized as having highly unstable, congested conditions and low operating speeds.

The volume-to-capacity ratio (V/C) is a measure of traffic demand on a facility (expressed as volume; V) compared to its traffic-carrying capacity (C). In evaluating the performance of a roadway segments under the existing conditions, V/C is considered together with LOS.

Traffic volumes on study area segments and intersections during AM and PM peak hours are based on daily roadway traffic counts and peak period manual traffic counts at intersections. The freeway segment analysis is based on 2007 Caltrans volume data.

The existing roadway conditions are shown in Figure 2.3-2. The existing AM, PM, and average daily trip (ADT) volumes are shown on Figure 2.3-3.

As shown in Table 2.3-1, under existing conditions, all study intersections operate at LOS D or better with the exception of:

1) SR-76 (Pala Road) / Via Monserate (Minor Leg LOS F AM & PM)
2) Old Highway 395 / Reche Road (Minor Leg LOS E PM)
3) SR-76 (Mission Avenue) / E. Vista Way (LOS E AM)
4) SR-76 (Mission .Avenue) / North River Road (LOS E AM)

As shown in Table 2.3-2A and 2.3-2B, under existing conditions, all study area state routes and roadway segments operate at LOS D or with the exception of:

1) SR-76 (Mission Avenue.) from E. Vista Way to North River Road (LOS F AM & PM)
2) SR-76 (Mission Avenue.) from North River Road to Olive Hill Road (LOS F AM & PM) SR-76 (Mission Avenue.) from Olive Hill Road to S. Mission Road (LOS F AM & PM)
3) SR-76 (Pala Road) from S. Mission Road to Via Monserate (LOS E AM & LOS F PM)
4) SR-76 (Pala Road) from Via Monserate to Gird Road (LOS E AM & LOS F PM)
5) SR-76 (Pala Road) from I-15 SB Ramp to I-15 NB Ramp (LOS E AM & LOS F PM)
6) SR-76 (Pala Road) from I-15 NB Ramp to Pankey Road (LOS E PM)
7) SR-76 (Pala Road) from Pankey Road to Horse Ranch Creek Road (LOS E PM)
8) SR-76 (Pala Road) from Horse Ranch Creek Road to Rice Canyon Road (LOS E PM)
9) SR-76 (Pala Road) from Rice Canyon Road to Couser Canyon Road (LOS E PM)
10) SR-76 (Pala Road) from Couser Canyon Road to Pala Mission Road (LOS F PM)

The unacceptable LOS for SR-76 (Pala Road) from I-15 NB Ramp to Pankey Road and from Pankey Road to Horse Ranch Creek Road is calculated to change to acceptable LOS when the current widening of SR-76 from two to four lanes is completed.

The LOS calculated for the freeway segments are shown in Table 2.3-3; all segments within the study area operate at LOS C or better, with the exception of I-15 from Rainbow Valley to Mission Road (southbound) which operates at LOS D in the AM.

2.3.2 Guidelines for the Determination of Significance

For the purpose of this EIR, the basis for the determination of significance is the County's Guidelines for the Determination of Significance, Traffic, December 5, 2007. All of the guidelines are derived from accepted state and local standards for significant impacts based on levels of service.

A direct impact would occur when the significance criteria is exceeded. If the proposed project exceeds the values provided in the table below, then the individually proposed project would result in a direct traffic impact. Specific improvements to mitigate direct impacts must be identified.

A cumulative impact would occur when two conditions are met: 1) will build-out of all near-term projects result in a cumulative traffic impact; 2) does the amount of traffic generated by the individual proposed project contribute (even in a small part) to that

cumulative impact. Both conditions must be met for an individual project to result in a cumulative traffic impact. If the traffic generated from all the near-term projects (cumulative projects) would result in a cumulative traffic impact, then condition one is met. If the total amount of traffic generated exceeds the values provided in the table below, then condition two is met and the individually proposed project would result in a cumulative traffic impact. Fair-share contributions toward cumulative impacts may only be provided when a specific project and schedule for completion of the project has been identified.

Road Segments

A project would result in a direct or cumulative traffic impacts if the following significance criteria are exceeded:

Measures of Significant Project Impacts to Congestion
Allowable Increases on Congested Roads

	Road Segments		
	2-Lane Road	4-Lane Road	6-Lane Road
LOS E	200 ADT	400 ADT	600 ADT
LOS F	100 ADT	200 ADT	300 ADT

Intersections

A project would result in a direct and or cumulative impact if the following significance criteria are exceeded:

Measures of Significant Project Impacts to Congestion
Allowable Increases on Congested Intersections

	Intersections	
	Signalized	Unsignalized
LOS E	Delay of 2 seconds	20 peak hour trips on a critical movement
LOS F	Delay of 1 second, or 5 peak hour trips on a critical movement	5 peak hour trips on a critical movement

2.3.3 Analysis of Project Effects and Determination as to Significance

Trip Generation

Project Trip Generation

As stated above, the TIS is based on a worst-case scenario analysis using a greater number of ADTs than would be generated by implementation of the Proposed Project. Proposed Project trip generation was calculated using SANDAG trip rates from the *Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region*, April 2002. Based on SANDAG trip rates, the Proposed Project is calculated to generate 8,740 ADT, 965 AM peak hour trips (365 inbound and 600 outbound), and 864 PM peak hour trips (574 inbound and 290 outbound) as shown in Table 2.3-4.

School Trip Generation

The Bonsall Unified School District will determine whether it will use the 12.7-acre site for elementary school purposes. An alternative use for the site will be 42 residential units if the District elects not to build an elementary school on the 12.7-acre site. The daily traffic generation for the elementary school is 1,116 ADT while the daily traffic generation for 42 single-family units is 420 ADT (10 ADT/unit x 42 unts). This traffic study documents and analyzes the elementary school scenario due to its higher overall traffic generation.

Project Traffic Distribution and Assignment

Project trips were distributed based on a SANDAG Series 11 traffic model. Because of the vicinity of the Proposed Project to other proposed projects including Campus Park (mixed-use), Campus Park West (mixed-use), Meadowood (residential with a school), and Palomar College, the area would contain many interacting uses that create the equivalent of a small town. It is assumed that some Proposed Project traffic would remain within the internal roadway system. The SANDAG traffic model accounts for this "internal capture rate." For direct project impacts, the analysis did not apply an internal capture rate (therefore assumed to be zero) because only residential, school, and park land uses would be associated with the Proposed Project. Near-term (cumulative) and long-term (horizon year 2030) distribution scenarios assume that the project area, complete with retail/commercial/and office land uses would be developed assuming a 30 percent internal capture rate. Details of the traffic modeling including calculations of internal capture rates, traffic distribution scenarios and assignment analysis are included in Section 3.3 of the TIS.

The long-term residential distribution is shown in Figure 2.3-4 with the assignment shown in Figure 2.3-5. The combined long-term residential, school, and park assignments are shown in Figure 2.3-6.

Construction Traffic Generation

Proposed Project construction is anticipated to occur in three phases over a period of ten to fifteen years. During this period, construction traffic may contribute to temporary traffic delays in the vicinity of the Proposed Project. As discussed within Chapter 1, the Proposed Project includes the preparation of a construction and grading phasing plan which includes a Traffic Control Plan. This plan would be approved by the County Department of Public Works prior to start of any clearing or grading activities, and would be implemented during construction of the Proposed Project. Traffic control measures may include the use of flagmen, traffic cones, advanced notification signage, and pedestrian/equestrian detours. Construction hours also would be defined in the Traffic Control Plan and would likely be outside of peak traffic periods

Furthermore, as previously stated in Chapter 1, the Proposed Project is designed to have the earthwork balanced. Therefore, there is no anticipated need for import or export of soils, reducing the number of required truck trips to and from the Project Site during construction.

Existing + Project

This scenario is considered to be a conservative analysis in that no internal capture rate is applied to account for the time period when the residential is constructed and occupied before the surrounding proposed commercial developments are to be constructed.

If the Proposed Project applicant is first to proceed (between Campus Park and Palomar College), then the applicant will construct the following:

- Horse Ranch Creek Road from SR-76 to the southern terminus of Pankey Road located south of Stewart Canyon Road;
- Pala Mesa Drive from Old Highway 395 to SR-76;
- Street R (AKA Pankey Place) from Pala Mesa Drive to Horse Ranch Creek Road;

and the intersections of:

- Horse Ranch Creek Road at SR-76;
- Horse Ranch Creek Road at Pala Mesa Heights Drive (aka Baltimore Oriole Road);
- Horse Ranch Creek Road at Street B (aka Harvest Glen Lane);
- Horse Ranch Creek Road at Street A;
- Horse Ranch Creek Road at Street Q (aka School/Park Access);
- Horse Ranch Creek Road at Street R (aka Pankey Place); and
- Pala Mesa Drive at Street R (aka Pankey Place).

Additionally, SR-76 from I-15 easterly a distance of approximately 1.4 miles is currently being widened from two to four lanes. Because this improvement is anticipated to be completed before the Proposed Project will reach occupancy, SR-76 from I-15 to Horse Ranch Creek Road was analyzed as four lanes under existing + project conditions. The proposed improvements by the applicant if first to proceed, as used in this existing + project analysis scenario are shown in Figure 2.3-7. The peak hour intersection volumes and daily traffic volumes for the existing + project scenario are shown in Figure 2.3-8. All LOS calculations are included in Appendix K of the TIS.

Intersections

As shown in Table 2.3-5, under existing + project conditions, the following intersection is expected to operate at unacceptable LOS:

1) Intersection of Old Highway 395 / Reche Road (LOS F PM)

The Proposed Project would, therefore, have a **direct and significant impact** on one study area intersection (**TR-1**).

Street Segments

As shown in Table 2.3-6A and 2.3-6B, under existing + project conditions, the following two state route/street segments are expected to operate at unacceptable LOS:

1) SR-76 from Via Monserate to Gird Road (LOS E AM and LOS F PM)
2) SR-76 from I-15 SB Ramp to I-15 NB Ramp (LOS E AM & LOS F PM)

The Proposed Project would therefore have a **direct and significant impact** on these two study area street segments (**TR-2**).

The applicant proposes to construct Horse Ranch Creek Road in accordance with the General Plan Update Circulation Element "Boulevard" standards and has received approval of a request for a modification to a road standard. Therefore, the street segment operations shown in Table 2.3-6A reflect a Boulevard capacity for Horse Ranch Creek Road.

Freeway Segments

As shown in Table 2.3-7**,** there would be no direct impacts to freeway segments in the existing + project scenario.

2.3.4 Cumulative Impact Analysis

Cumulative Projects

Cumulative projects were accounted for through a general plan summary approach where SANDAG provided a modified Series 10 Year 2030 model developed for the County's General Plan Update traffic forecast analysis. The modified Series 10 model analysis accounts for the 95 cumulative projects listed in Section 3.5, Table 18 of the TIS.

The criteria for identifying the cumulative projects included:

1. Non-daily traffic generators were not included (i.e., cell sites),

2. Geographic boundary based on proximity to study roadways and roadways that will feed toward or away from our project location (i.e., radius around project and buffer around adjacent transportation corridors),

3. Reviewed available cumulative projects within this study area. Withdrawn or denied cumulative projects were removed.

4. Casino projects that are not listed in the DPLU/DPW cumulative traffic binders were researched and included.

5. These cumulative projects are considered to be cumulatively considerable from a CEQA standpoint as they represent major projects contributing to the traffic study

boundary. This includes tentative parcel maps within the study boundary to provide a comprehensive approach, and

6. Projects requiring GPAs (i.e. Meadowood, Campus Park West, Warner Ranch, Pala Mesa Resort) and Casino projects were confirmed as being included in the Cumulative Map model by reviewing the list of inconsistent and Casino projects included in Appendix L of the TIS.

A summary of the cumulative projects is included in Table 2.3-8. The combined cumulative project volumes are shown on Figure 2.3-9.

Roadway improvements already under construction (widening of SR-76 from two to four lanes or roadway improvements included as part of the Proposed Project (access to the project via Horse Ranch Creek Road, Pala Mesa Drive, Street "R" and all associated internal intersections) were incorporated into the analysis. Other roadway improvements are planned by the Pala Tribe and Caltrans; however, these improvements were not incorporated into the analysis. Documents describing the planned improvements by other cumulative project applicants are included in Appendix M of the TIS.

Of significant importance is that this analysis includes all of the known cumulative project traffic but does not include the necessary roadway mitigation measures required to support all of the other cumulative projects. Based on the size of some of the other cumulative projects, significant roadway improvements would most likely be forthcoming to satisfy CEQA requirements.

Existing + Cumulative Projects

This analysis is based on near-term conditions (consisting of existing + known cumulative projects). Existing + cumulative LOS calculations are included in Appendix N of the TIS.

Intersections

The peak hour intersection volumes and daily traffic volumes for this scenario of existing + cumulative projects are shown in Figure 2.3-10. As shown in Table 2.3-9, under existing + cumulative conditions, all study area intersections were calculated to operate at acceptable LOS D with the exception of:

1) SR-76 (Pala Road) / Via Monserate (LOS F AM & PM)
2) SR-76 (Pala Road) / Gird Road (LOS F PM)
3) SR-76 (Pala Road) / Sage Road (LOS F AM & PM)
4) SR-76 (Pala Road) / Old Highway 395 (LOS F AM &PM)
5) SR-76 (Pala Road) / I-15 SB Ramp (LOS F AM & PM)
6) SR-76 (Pala Road) / I-15 NB Ramp (LOS E AM & LOS F PM)
7) SR-76 (Pala Road.) / Pankey Road (LOS F AM & PM)
8) SR-76 (Pala Road) / Rice Canyon Road (LOS F AM & PM)
9) SR-76 (Pala Road) / Couser Canyon Road (LOS F AM & PM)
10) Old Highway 395 / Pala Mesa Drive (LOS F AM & PM)
11) Old Highway 395 / Stewart Canyon Road (LOS F AM & PM)
12) Old Highway 395 / Reche Road (LOS F AM & PM)
13) Mission Road / Old Highway 395 (LOS F PM)
14) Mission Road / I-15 Southbound Ramp (LOS E AM & PM)

15) Mission Road / I-15 Northbound Ramp (LOS F PM)
16) SR-76 (Mission Avenue) / E. Vista Way (LOS F AM & PM)
17) SR-76 (Mission Avenue) / North River Road (LOS F AM & PM)
18) SR-76 (Mission Avenue) / Olive Hill Road (LOS F AM & PM)
19) SR-76 (Mission Avenue) / S. Mission Road (LOS E AM & LOS F PM)

Street/State Route Segments

The roadway conditions assumed the implementation of planned roadway improvements documented by other cumulative project applicants as shown in Figure 2.3-11. As shown in Table 2.3-10A and 2.3-10B, under existing + cumulative conditions, all street and State Route segments were calculated to operate at acceptable LOS D with the exception of:

1) Old Highway 395 from E. Mission Road to Reche Road (LOS F)
2) Old Highway 395 from Reche Road to Stewart Canyon Road (LOS F)
3) Old Highway 395 from Pala Mesa Dr to SR-76 (LOS F)
4) SR-76 (Pala Road) from E. Vista Way to North River Road (LOS F AM & PM)
5) SR-76 (Pala Road) from North River Road to Olive Hill Road (LOS F AM & PM)
6) SR-76 (Pala Road) from Olive Hill Road to S Mission Road (LOS F AM & PM)
7) SR-76 (Pala Road) from S Mission Road to Via Monserate (LOS F AM & PM)
8) SR-76 (Pala Road) from Via Monserate to Gird Road (LOS F AM & PM)
9) SR-76 (Pala Road) from Gird Road to Sage Road (LOS F AM & PM)
10) SR-76 (Pala Road) from Sage Road to Old Highway 395 (LOS F AM & PM)
11) SR-76 (Pala Road) from I-15 SB Ramp to I-15 NB Ramp (LOS F AM & PM)
12) SR-76 (Pala Road) from Horse Ranch Creek Road to Rice Canyon Road (LOS F AM & PM)
13) SR-76 (Pala Road) from Rice Canyon Road to Couser Canyon Road (LOS F AM & PM)
14) SR-76 (Pala Road) from Couser Canyon Road to Pala Mission Road (LOS E AM & LOS F PM)

Freeway Segments

As shown in Table 2.3-11, all study area freeway segments would operate at LOS D or better in the existing + cumulative scenario.

Existing + Cumulative + Project

This scenario accounts for the addition of Proposed Project traffic onto existing + cumulative traffic for AM, PM, and ADT conditions. The peak hour intersection volumes and daily traffic volumes for this scenario of existing + cumulative + project conditions are shown in Figure 2.3-12.

Intersections

As shown in Table 2.3-12, under existing + cumulative + project conditions the Proposed Project would contribute to a significant cumulative impact at the following intersections:

1) SR-76 (Pala Road) / Via Monserate (LOS F AM & PM)
2) SR-76 (Pala Road) / Gird Road (LOS F PM)

3) SR-76 (Pala Road) / Sage Road (LOS F AM & PM)
4) SR-76 (Pala Road) / Old Highway 395 (LOS F AM &PM)
5) SR-76 (Pala Road) / I-15 SB Ramp (LOS F AM & PM)
6) SR-76 (Pala Road) / I-15 NB Ramp (LOS E AM & LOS F PM)
7) SR-76 (Pala Road) / Pankey Road (LOS F AM & PM)
8) SR-76 (Pala Road) / Rice Canyon Road (LOS F AM & PM)
9) SR-76 (Pala Road) / Couser Canyon Road (LOS F AM & PM)
10) Old Highway 395 / Pala Mesa Drive (LOS F AM & PM)
11) Old Highway 395 / Stewart Canyon Road (LOS F AM & PM)
12) Old Highway 395 / Reche Road (LOS F AM & PM)
13) Mission Road / Old Highway 395 (LOS F PM)
14) Mission Road / I-15 SB Ramp (LOS E AM & PM)
15) Mission Road / I-15 NB Ramp (LOS F PM)
16) SR-76 (Mission Avenue) / E. Vista Way (LOS F AM & PM)
17) SR-76 (Mission Avenue) / North River Road (LOS F AM & PM)
18) SR-76 (Mission Avenue) / Olive Hill Road (LOS F AM & PM)
19) SR-76 (Mission Avenue) / S. Mission Road (LOS E AM & LOS F PM)

Therefore, the Proposed Project would have a **cumulatively significant impact** on these study area intersections (**TR-3**).

Street/ State Route Segments

As shown in Tables 2.3-13A and 2.3-13B, under existing + cumulative + project conditions the project would contribute to significant cumulative impacts for the following street/State Route segments:

1) Old Highway 395 from E. Mission to Reche Road (LOS F)
2) Old Highway 395 from Reche Road to Stewart Canyon Road (LOS F)
3) Old Highway 395 from Pala Mesa Dr. to SR-76 (LOS F)
4) SR-76 from E. Vista Way to North River Road (LOS F AM & PM)
5) SR-76 from North River Road to Olive Hill Road (LOS F AM & PM)
6) SR-76 from Olive Hill Road to S Mission Road (LOS F AM & PM)
7) SR-76 from S. Mission Road to Via Monserate (LOS F AM & PM)
8) SR-76 from Via Monserate to Gird Road (LOS F AM & PM)
9) SR-76 from Gird Road to Sage Road (LOS F AM & PM)
10) SR-76 from Sage Road to Old Highway 395 (LOS F AM & PM)
11) SR-76 from I-15 SB Ramp to I-15 NB Ramp (LOS F AM & PM)
12) SR-76 from Horse Ranch Creek Road to Rice Canyon Road (LOS F AM & PM)
13) SR-76 from Rice Canyon Road to Couser Canyon Road (LOS F AM & PM)
14) SR-76 from Couser Canyon to Pala Mission Road (LOS E AM & LOS F PM)

The Proposed Project would therefore have a **cumulatively significant impact** on these study area street segments (**TR-4**).

Freeway Segments

As shown in Table 2.3-14**,** all study area freeway segments would operate at LOS D or better in the existing + cumulative + project scenario. The Proposed Project would not contribute to a significant cumulative impact to any freeway segments.

Horizon Year 2030

The horizon year 2030 analysis was based on the horizon year street system (based on the adopted County Circulation Element) and LOS operations. The SANDAG traffic model included the Proposed Project, thus the horizon year (2030) volumes have the project traffic removed.

Details of the calculations and factors used to determine horizon year volumes and roadway conditions are detailed in the TIS. Under horizon year (2030) conditions, all study area intersections and roadways were calculated to operate at LOS D with the exception of the following:

1) Freeway segment of I-15 from Rainbow Valley Blvd. to Mission Road (LOS E & F AM & PM)
2) Freeway segment of I-15 from Mission Road to SR-76 (LOS F PM)
3) Freeway segment of I-15 from SR-76 to Escondido Highway (LOS E & F PM)

Horizon year (2030) intersection LOS, State Route / street segment volumes and LOS and freeway volumes and LOS are shown on Tables 2.3-15, 2.3-16 and 2.3-17, respectively.

Horizon Year 2030 + Project

This section describes the horizon year (2030) + project conditions for AM, PM, and daily traffic conditions. The peak hour intersection volumes and daily traffic volumes are shown in Figure 2.3-13.

Intersections

As shown in Table 2.3-18, in the Horizon Year 2030 + project condition all study area intersections were calculated to operate at LOS D or better.

Street Segments

As shown in Table 2.3-19A and 2.3-19B, in the Horizon Year 2030 + project condition, all study area street/State Route segments were calculated to operate at LOS D or better.

Freeway Segments

As shown in Table 2.3-20, all study area freeway segments would operate at D in the Horizon Year 2030 + project scenario with the exception of:

1) Freeway segment of I-15 from Rainbow Valley Blvd. to Mission Road (LOS E & F AM & PM)
2) Freeway segment of I-15 from Mission Road to SR-76 (LOS F PM)
3) Freeway segment of I-15 from SR-76 to Escondido Highway (LOS E & F PM)

Of these locations, using the County's significance criteria, no project impacts were calculated because the Proposed Project traffic does not exceed the significance thresholds.

Summary of Traffic Impacts

As described above, the Proposed Project is calculated to have direct and cumulative impacts to intersections, and street/ State Route segments. These impacts are identified in Table 2.3-21.

2.3.5 Mitigation Measures Proposed to Minimize the Significant Effects

M-TR-1 The applicant shall install a traffic signal at the intersection of Old Highway 395 and Reche Road to the satisfaction of the Director of DPW.

M-TR-2 Direct impacts to study area/State Route segments shall be mitigated through the construction of one additional travel lane in each direction. The Caltrans SR-76 project proposes the widening of SR-76 from Via Monserate to Gird Road and SR-76 from the I-15 SB ramp to I-15 the NB ramp. Should the Caltrans project not be completed prior to the Proposed Project, the applicant shall make a fair share contribution to be allocated to the widening of SR-76, if feasible.

M-TR-3 Cumulative impacts to study area intersections shall be mitigated through applicant participation in the Transportation Impact Fee (TIF) Program.

M-TR-4 Cumulative impacts to study area/State Route segments shall be mitigated through applicant participation in the TIF Program.

2.3.6 Conclusion

A summary of all direct and cumulative impacts with associated mitigation is included in Table 2.3-22.

TR-1: The Proposed Project would have a direct significant impact on one intersection as follows:

- Old Highway 395 / Reche Road (LOS F PM)

This impact shall be mitigated through the installation of a traffic signal after all warrants have been met. The traffic signal will provide steady regulation of traffic flow at this location reducing intersection delay and thereby mitigating the impact Implementation of M-TR-1 will reduce the direct impact to **less than significant**.

TR-2: The Proposed Project would have a direct significant impact on two State Route segments, as follows:

- SR- 76 (Pala Road) from Via Monserate to Gird Road (LOS E AM and LOS F PM)
- SR- 76 (Pala Road) from I-15 SB Ramp to I-15 NB Ramp (LOS E AM & LOS F PM)

These impacts shall be mitigated through the widening of SR-76 from two to four lanes as proposed by the Caltrans SR-76 East Project. Once the roadway is widened, its capacity would increase and Proposed Project related traffic would no longer contribute

to unacceptable LOS. If the Caltrans SR-76 project is completed prior to occupancy of the first residential unit within the Proposed Project, the direct impacts to the SR-76 would be fully mitigated. Because this mitigation measure addresses a direct Project impact and the County of San Diego cannot guarantee implementation of this improvement prior to the first residential unit, impacts could remain **significant and unmitigated**. A Statement of Overriding Considerations would be required to be adopted to address this significant and unmitigated impact.

TR-3: The Proposed Project would have cumulative impacts on 19 intersections, as shown in Table 2.3-21.

These impacts shall be mitigated through applicant participation in the TIF Program. The TIF Program was specifically designed to address cumulative issues. The TIF Program looks forward to improvements required to support adequate circulation through Year 2030. Required improvements are specified and funds are collected from projects coming on line in order to defray costs of those improvements when implemented. Since the TIF Program was designed to address cumulative concerns and the associated appropriate payment for specified improvements, participation in the TIF Program constitutes effective and adequate mitigation for this issue. Payment of TIF fees shall serve to reduce these significant impacts to less than significant.

TR-4: The Proposed Project would have cumulative impacts on 14 street/State Route segments, as shown in Table 2.3-21.

These impacts shall be mitigated through applicant participation in the TIF Program as described above. Payment to the TIF Program shall serve to reduce these significant impacts to less than significant, as discussed in the subsequent paragraphs. .

The County's TIF Program provides a mechanism for mitigating the impacts created by future growth within the unincorporated area. The TIF is a fee offered to developers to facilitate compliance with the CEQA mandate that development projects mitigate their indirect, cumulative traffic impacts. The County TIF Program assesses the fee on all new development that results in new/added traffic. The primary purpose of the TIF is twofold: (1) to fund the construction of identified roadway facilities needed to reduce, or mitigate, projected cumulative traffic impacts resulting from future development within the County; and (2) to allocate the costs of these roadway facilities proportionally among future developing properties based upon their individual cumulative traffic impacts.

TIF funds are collected into 23 local Community Planning Area accounts, three regional accounts, and three regional freeway ramp accounts. TIF funds are only used to pay for improvements to roadway facilities identified for inclusion in the TIF Program, which include both County roads and Caltrans highway facilities. TIF funds collected for a specific local or regional area must be spent in the same area. For example, the TIF collected in the North Region TIF account may only be used for improvements to TIF facilities in the North Region. By ensuring TIF funds are spent for the specific roadway improvements identified in the TIF Program, the CEQA mitigation requirement is satisfied and the Mitigation Fee Act nexus is met.

As part of the TIF Program process, the transportation infrastructure needs are characterized as one of the following: existing deficiencies; direct impacts of future development; or indirect (cumulative) impacts of future development. Existing roadway

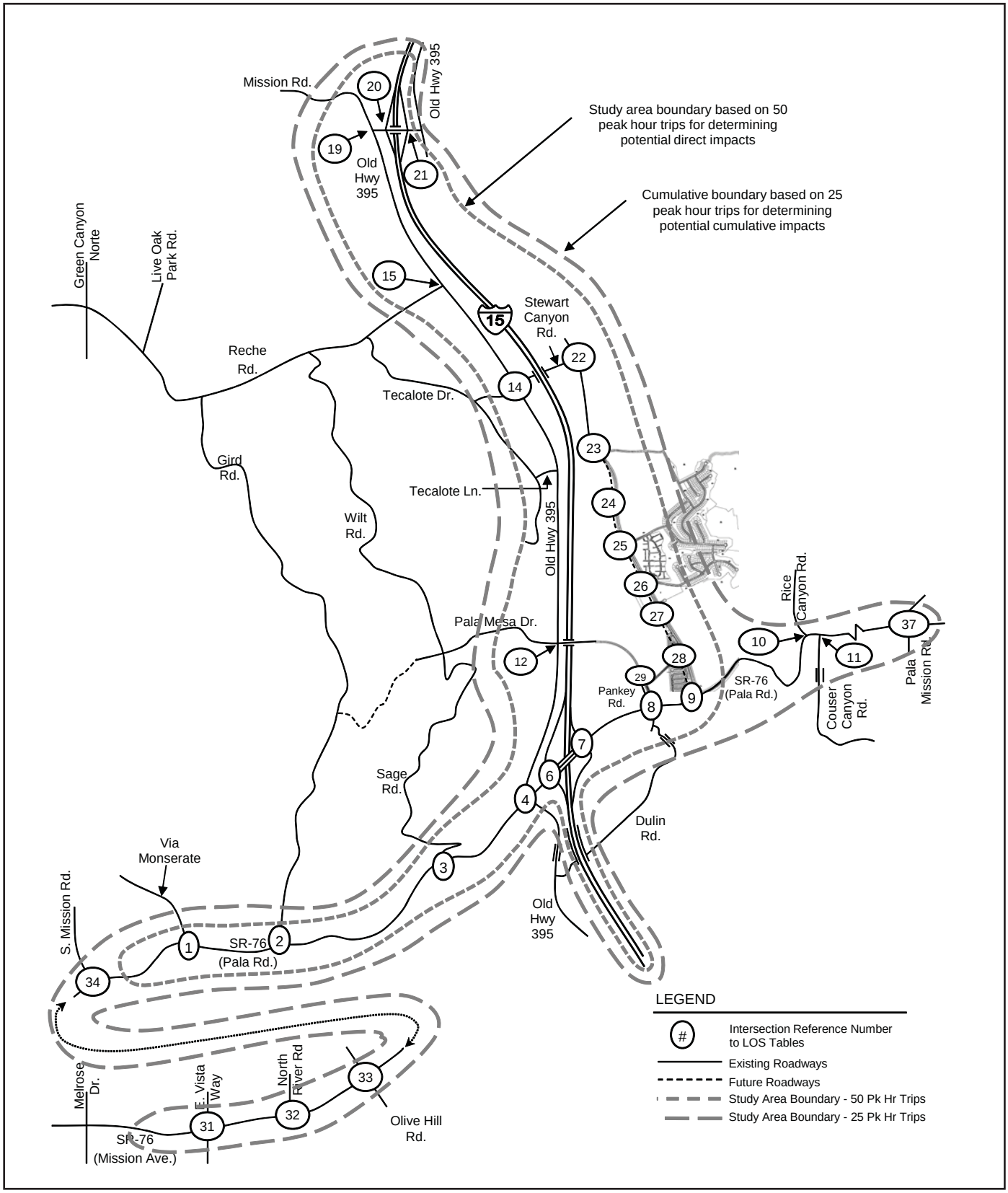
deficiencies are the responsibility of existing developed land uses and government agencies, and cannot be financed with impact fees. The TIF Program is not intended to mitigate direct impacts which will continue to be the responsibility of individual development projects. Therefore, the TIF Program is only designed to address the cumulative impacts associated with new growth.

The County TIF Program enables projects to complete CEQA compliance and move forward by contributing funds, which represents paying a fair share, toward the cost of improving roads, in the future, as the levels of service become unacceptable. This is due to the increased traffic volume caused by the cumulative impacts, of various developments. The County's TIF Program goes into great detail in identifying anticipated development, the roads affected, roadway costs, and the existing and projected levels of service on those roads. As sufficient funds become available, the County will implement the improvements that it has committed to.

In general, contribution to the TIF Program will mitigate a project's cumulative impacts within the unincorporated area. However, there will be some development projects that do not conform to the County's existing or proposed land use plan (General Plan Amendments, Specific Plans, and Specific Plan Amendments) which would result in increases in density or intensity, where the adopted TIF projections did not analyze their cumulative impacts. Such a circumstance would prevent the County's planned Circulation Element road system from operating, at its planned LOS, at that type of project's buildout. If approved, General Plan Amendment, Specific Plan, and Specific Plan Amendment projects resulting in increased densities will need to fully mitigate their direct and cumulative impacts. The direct impact mitigation required for the non-conforming projects are expected to address cumulative roadway deficiencies not envisioned as part of the TIF program and/or the County's planned Circulation Element roadway system. However, for the Proposed Project, the applicant's TIF payment mitigates for all Proposed Project cumulative impacts.

As currently designed, the Proposed Project would allow the County to address some of its current and projected challenges in relation to an increased population that requires affordable housing and diversity of housing types. The Proposed Project and its surrounding area have been targeted in the Draft General Plan Update as a region that could support increased population. The result is that multiple projects are proposing development which will change the existing land usages to urban land usage, increasing traffic related impacts. Although each project will likely provide design measures, like the Proposed Project, both direct and cumulative impacts within the region is unavoidable. Therefore, significant direct and cumulative impacts will remain. However, the need for increased housing, along with economic and social benefits to the County that would follow in the region, override the significant unavoidable environmental effects that would result from the Proposed Project and other cumulative projects. A Statement of Overriding Considerations would be required to be adopted to address this significant and unmitigated impact.

Map Source: LOS Engineering, Inc., May 2009



NO SCALE

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FIGURE 2.3-1
Traffic Study Area

Map Source: LOS Engineering, Inc., May 2009

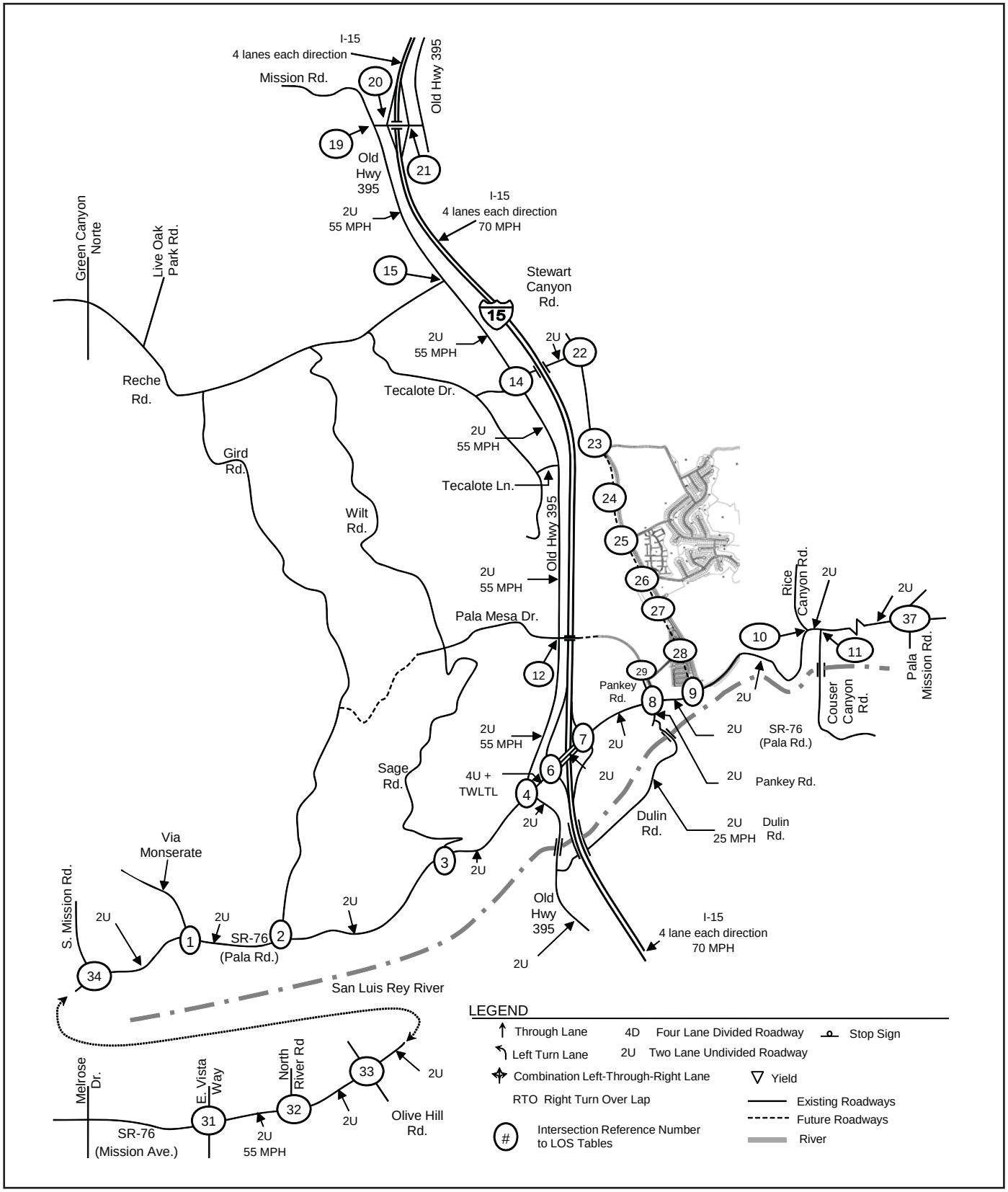

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FIGURE 2.3-2
Existing Roadway Conditions

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Map Source: LOS Engineering, Inc., May 2009

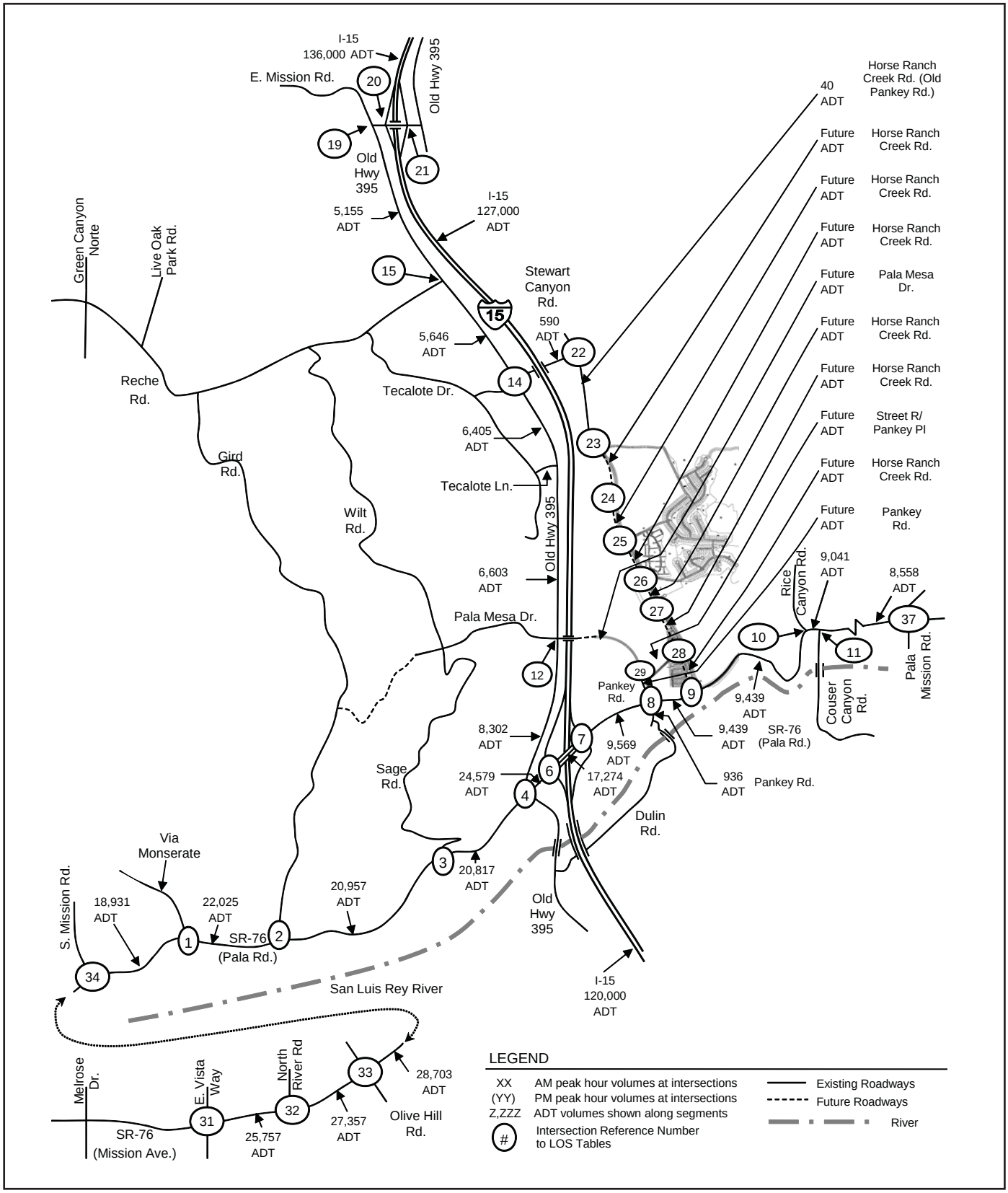

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FIGURE 2.3-3
Existing Traffic Volumes

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Map Source: LOS Engineering, Inc., May 2009

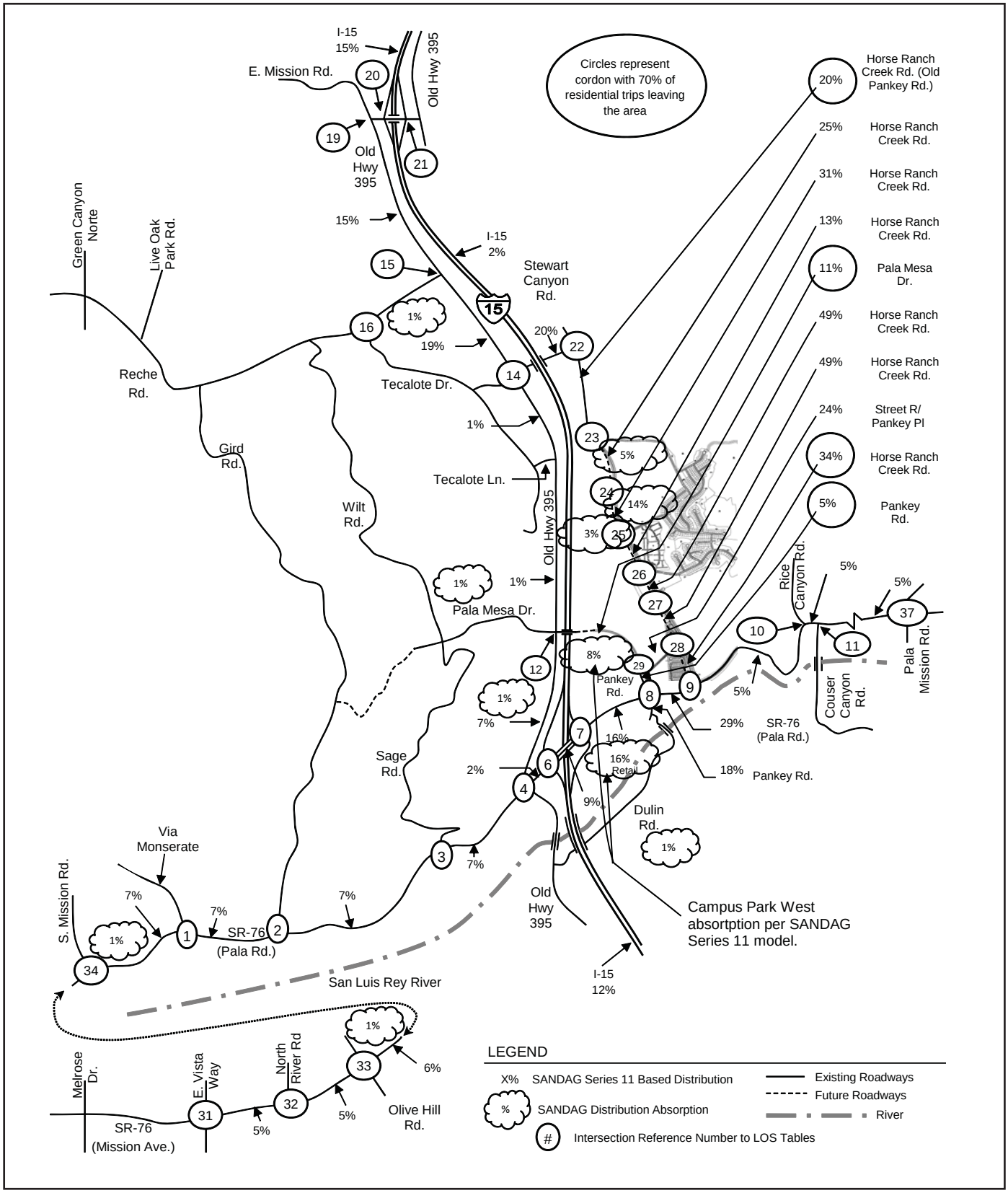

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FIGURE 2.3-4
Long-term Residential Distribution

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Map Source: LOS Engineering, Inc., May 2009

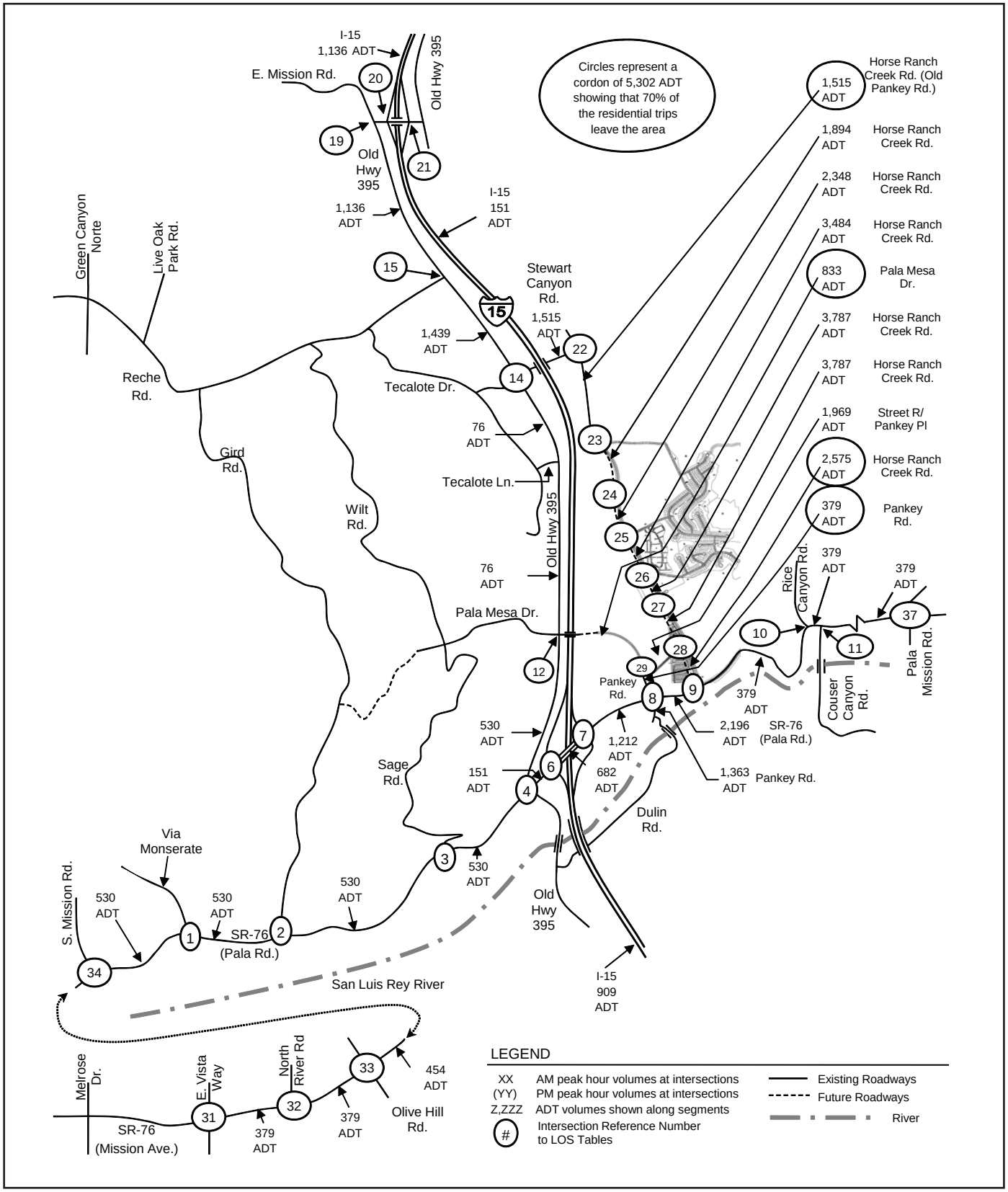

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FIGURE 2.3-5
Long-term Residential Assignment

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Map Source: LOS Engineering, Inc., May 2009

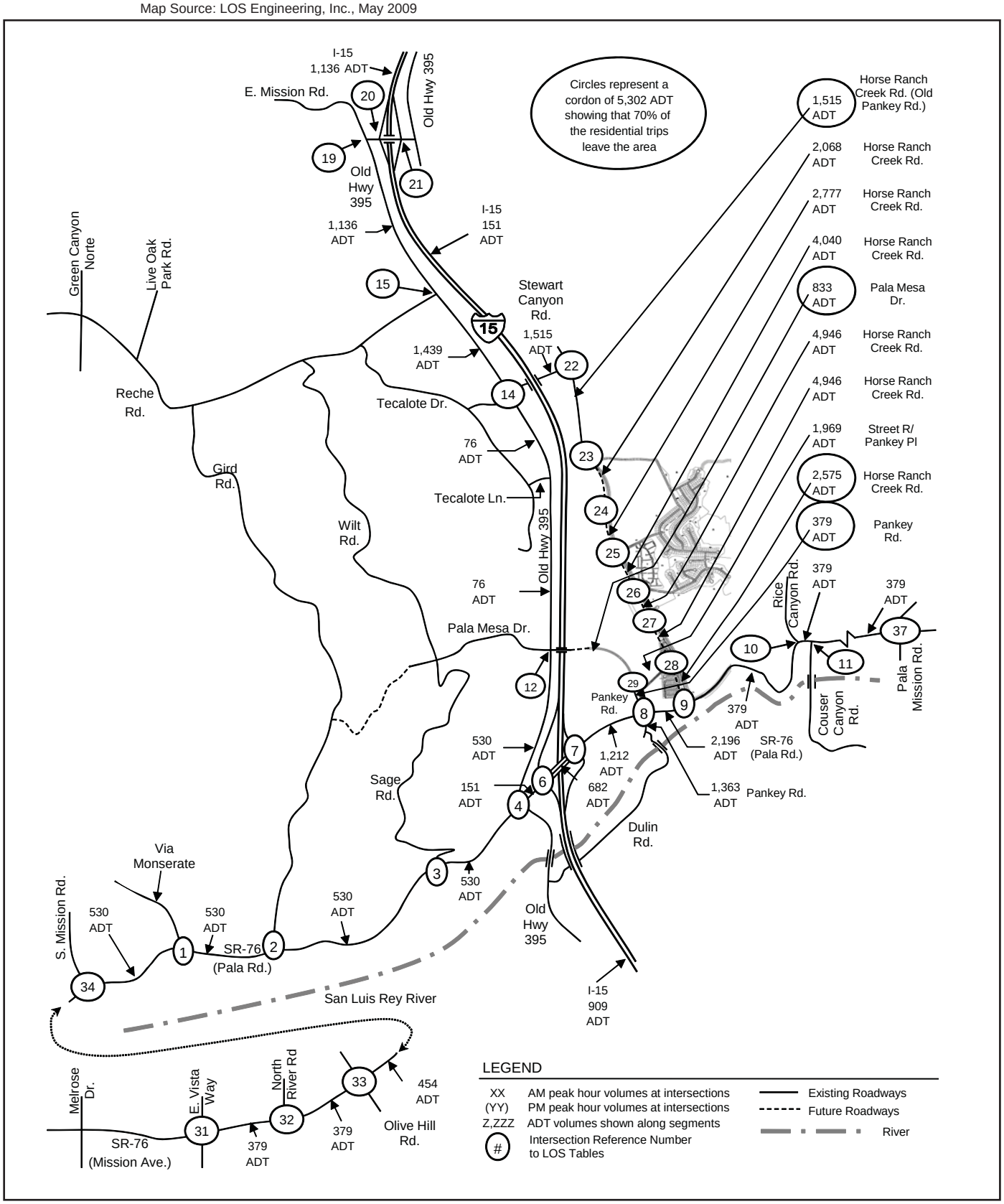

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FIGURE 2.3-6

Long-term Residential, School, and Park Assignment

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Map Source: LOS Engineering, Inc., May 2009

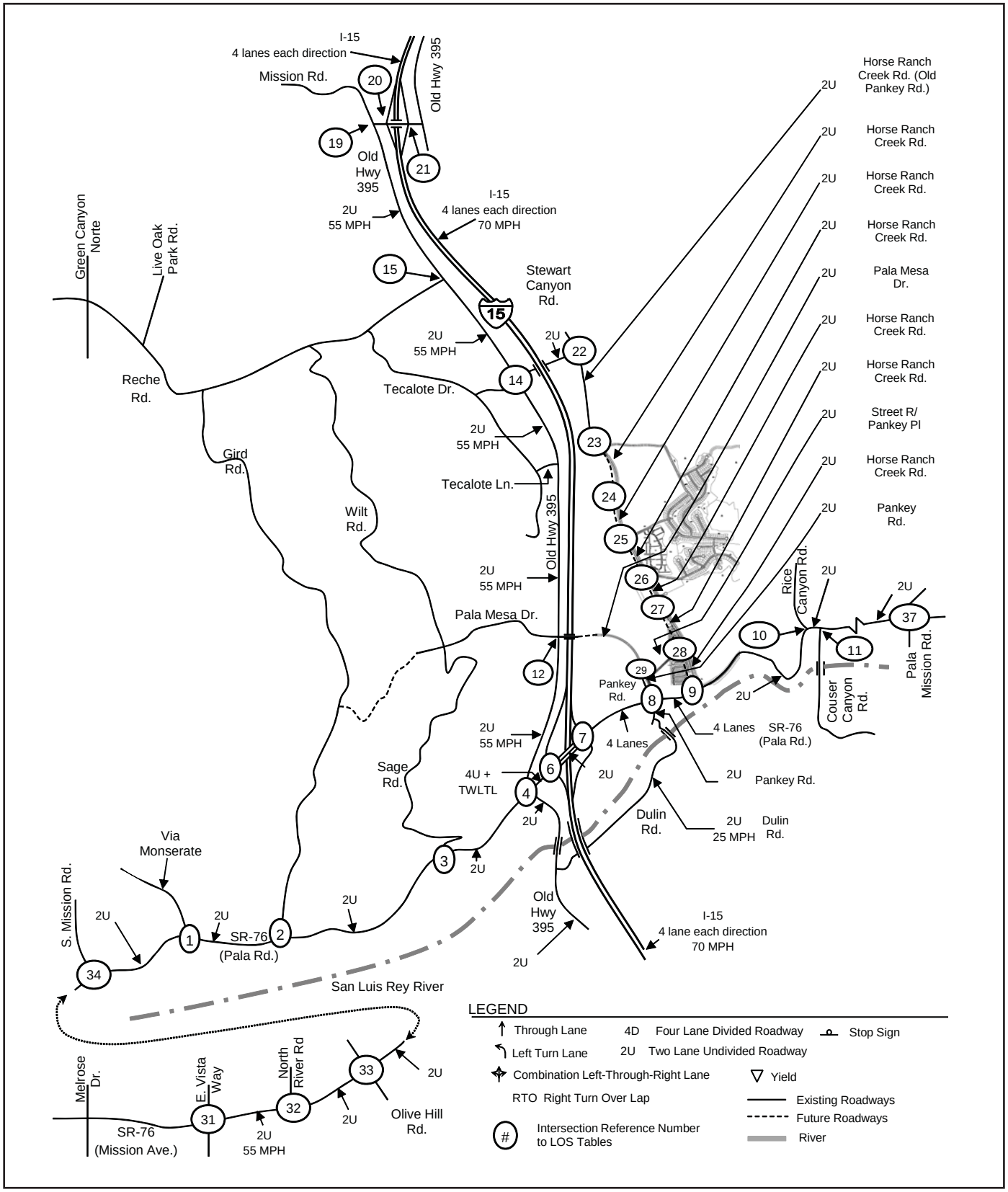

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FIGURE 2.3-7

Existing + Project Roadway Conditions

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Map Source: LOS Engineering, Inc., May 2009

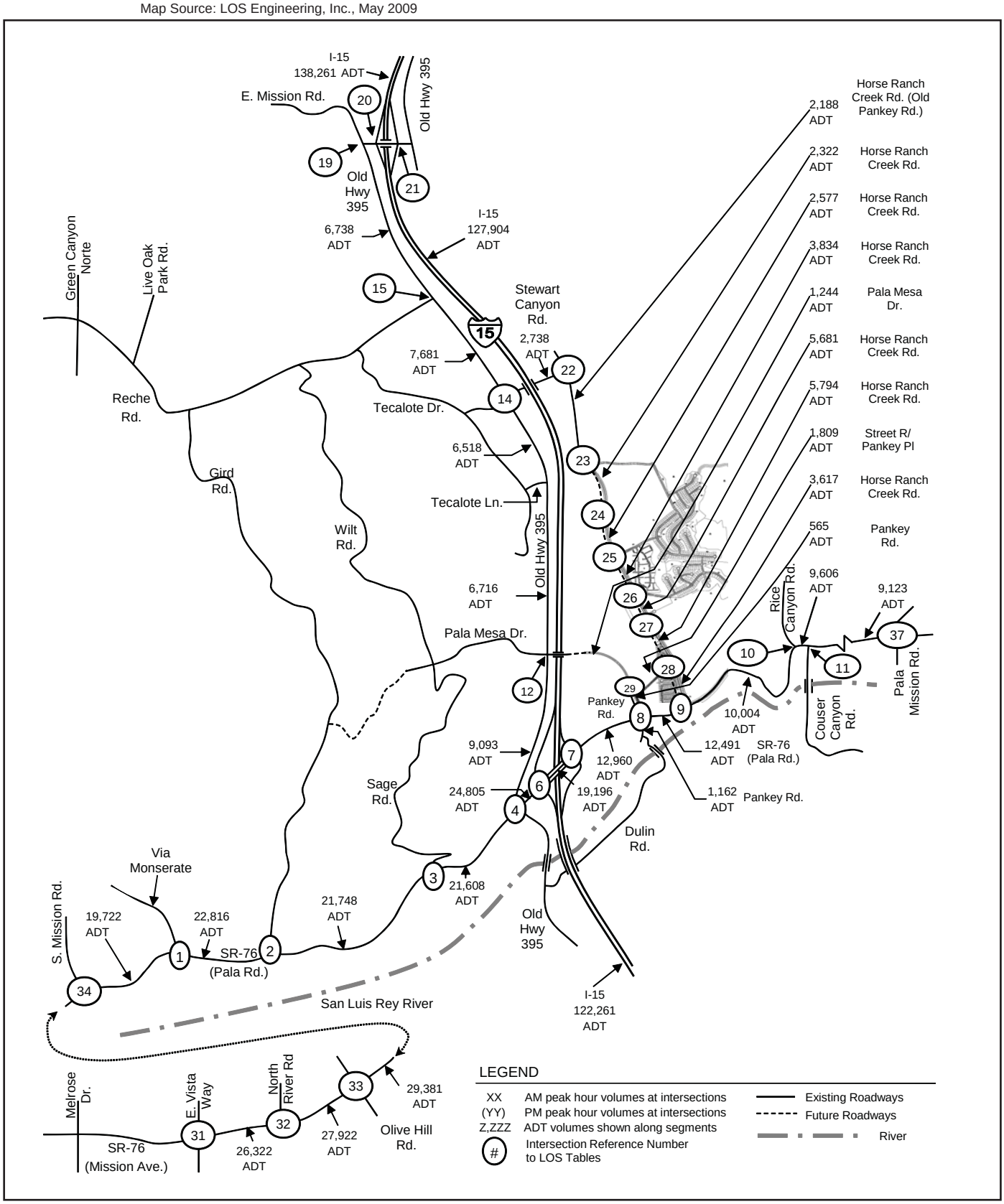

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FIGURE 2.3-8
Existing + Project Volumes

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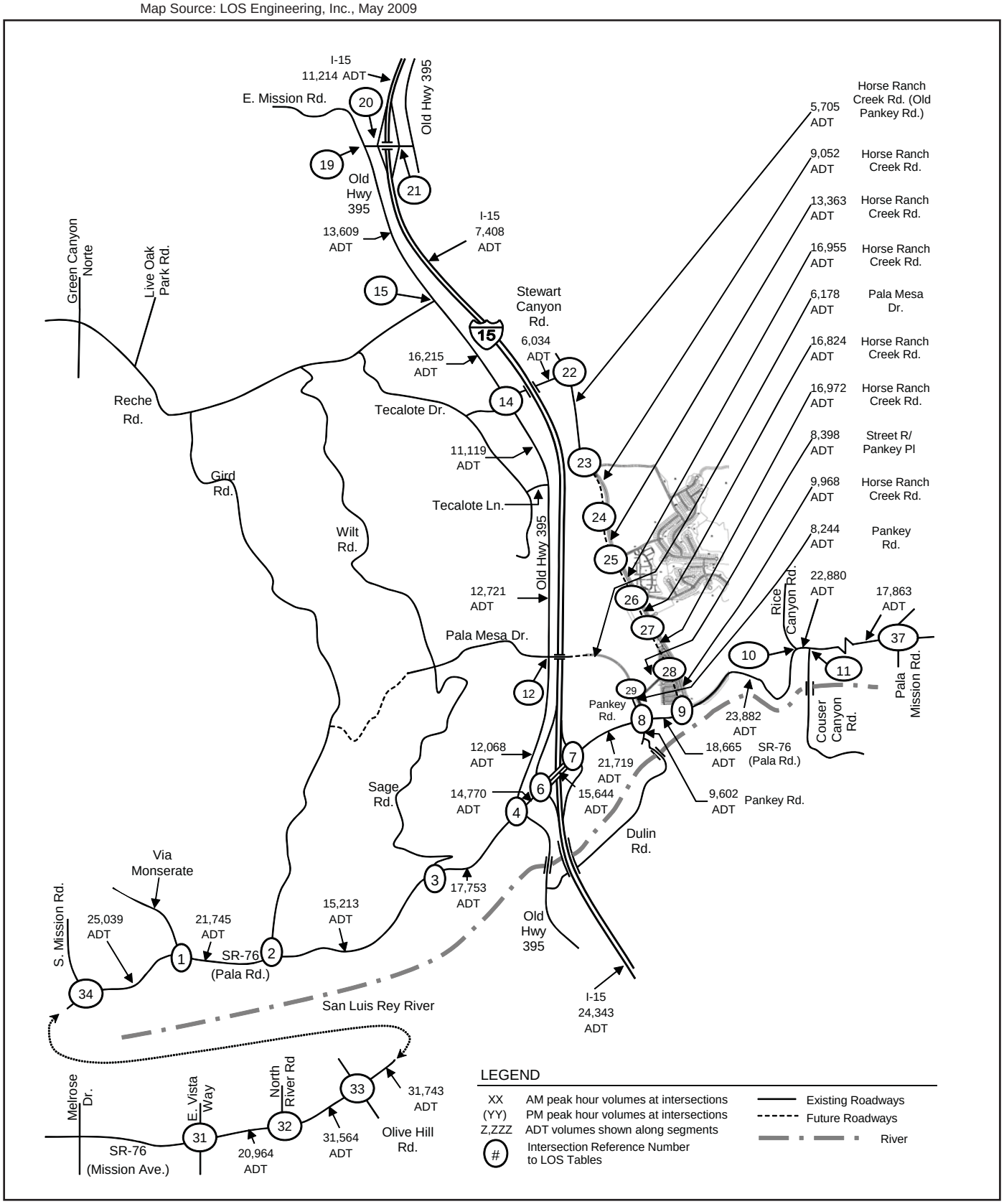

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FIGURE 2.3-9
Cumulative Project Volumes

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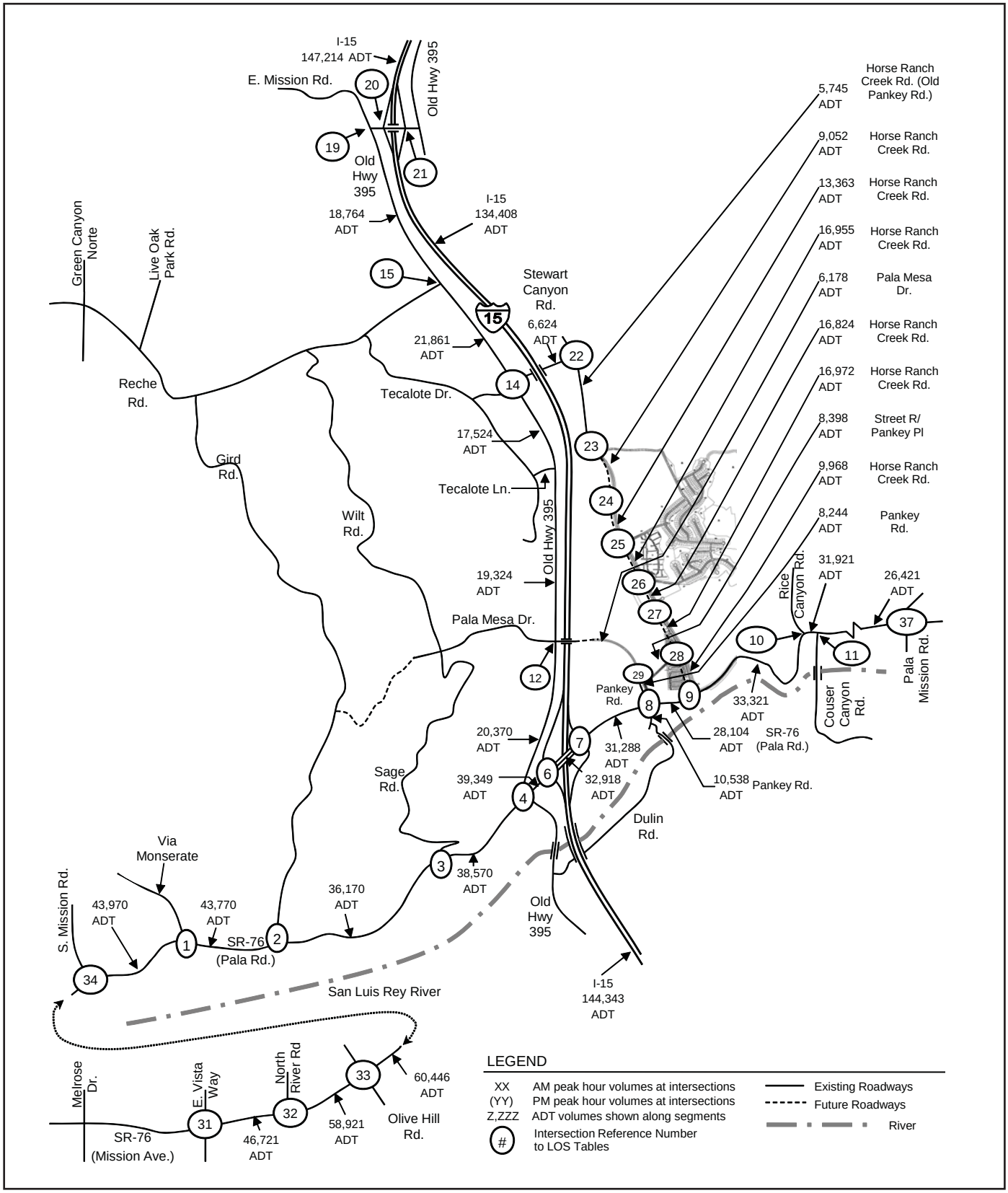

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FIGURE 2.3-10

Near-term (Existin + Cumulative) Volumes

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Map Source: LOS Engineering, Inc., May 2009

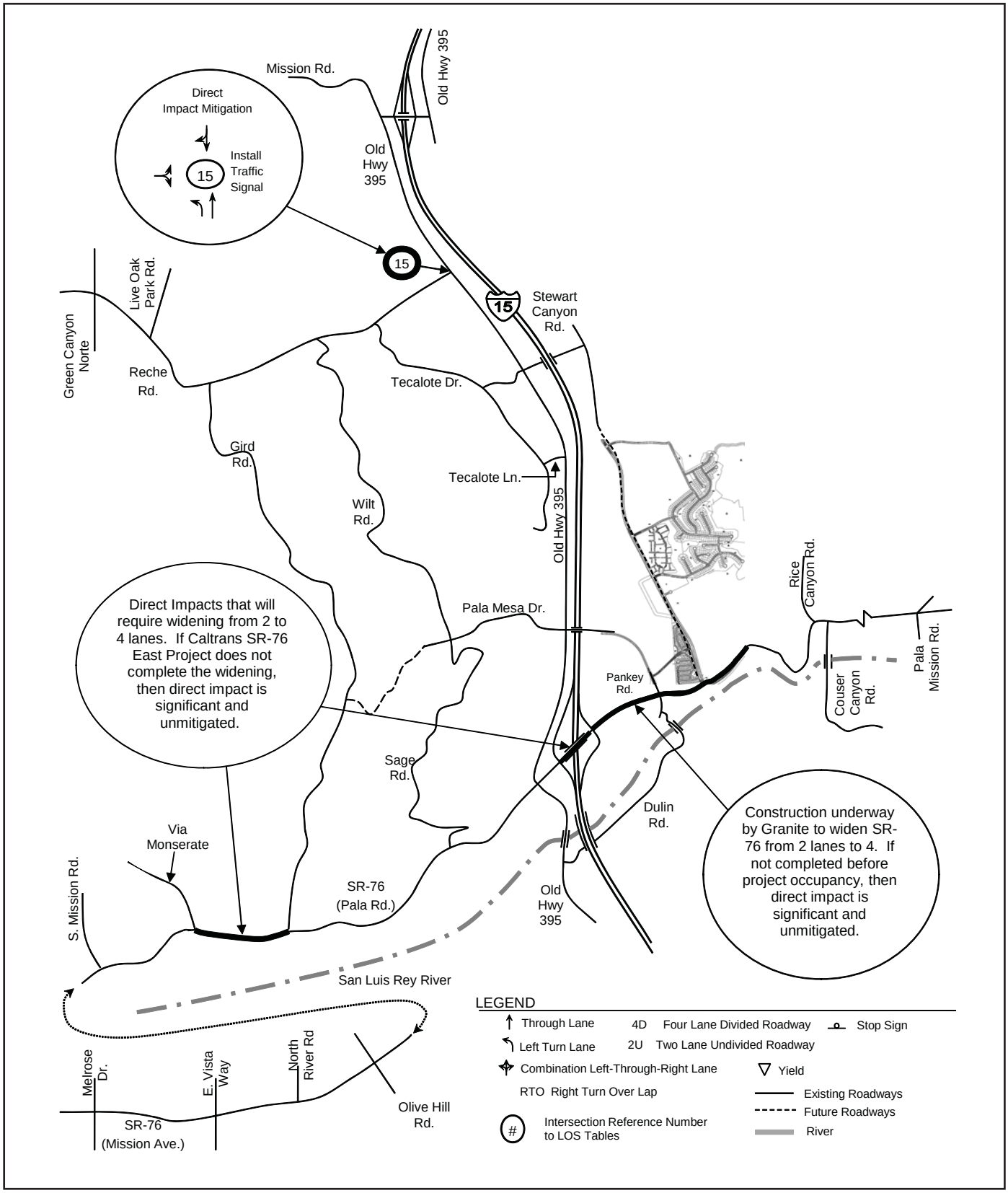

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FIGURE 2.3-11

Near-term (Existing + Cumulative) Planned Roadway Improvements

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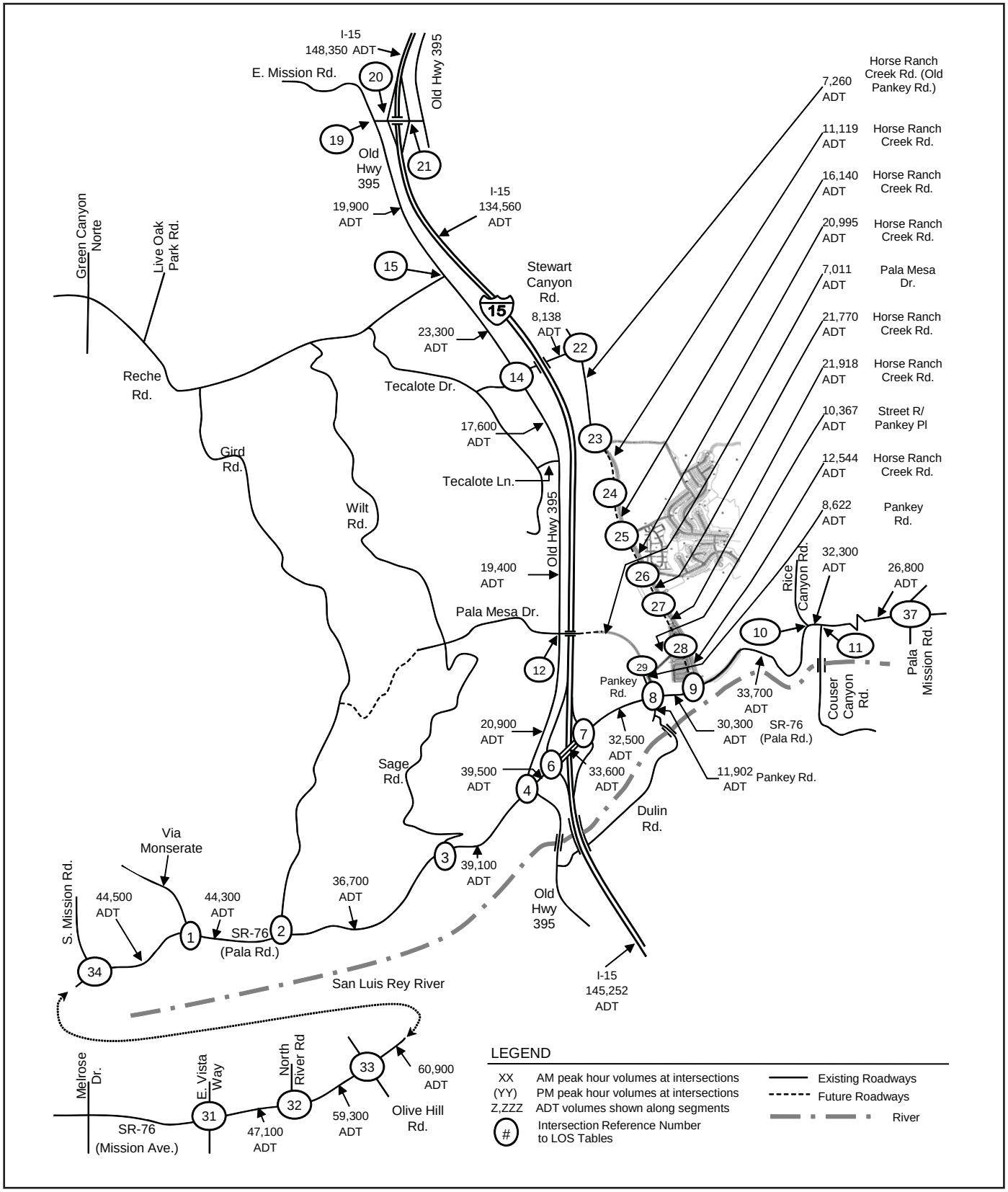
Map Source: LOS Engineering, Inc., May 2009



NO SCALE

FIGURE 2.3-12

Near-term (Existing + Cumulative) Project Volumes

RECON

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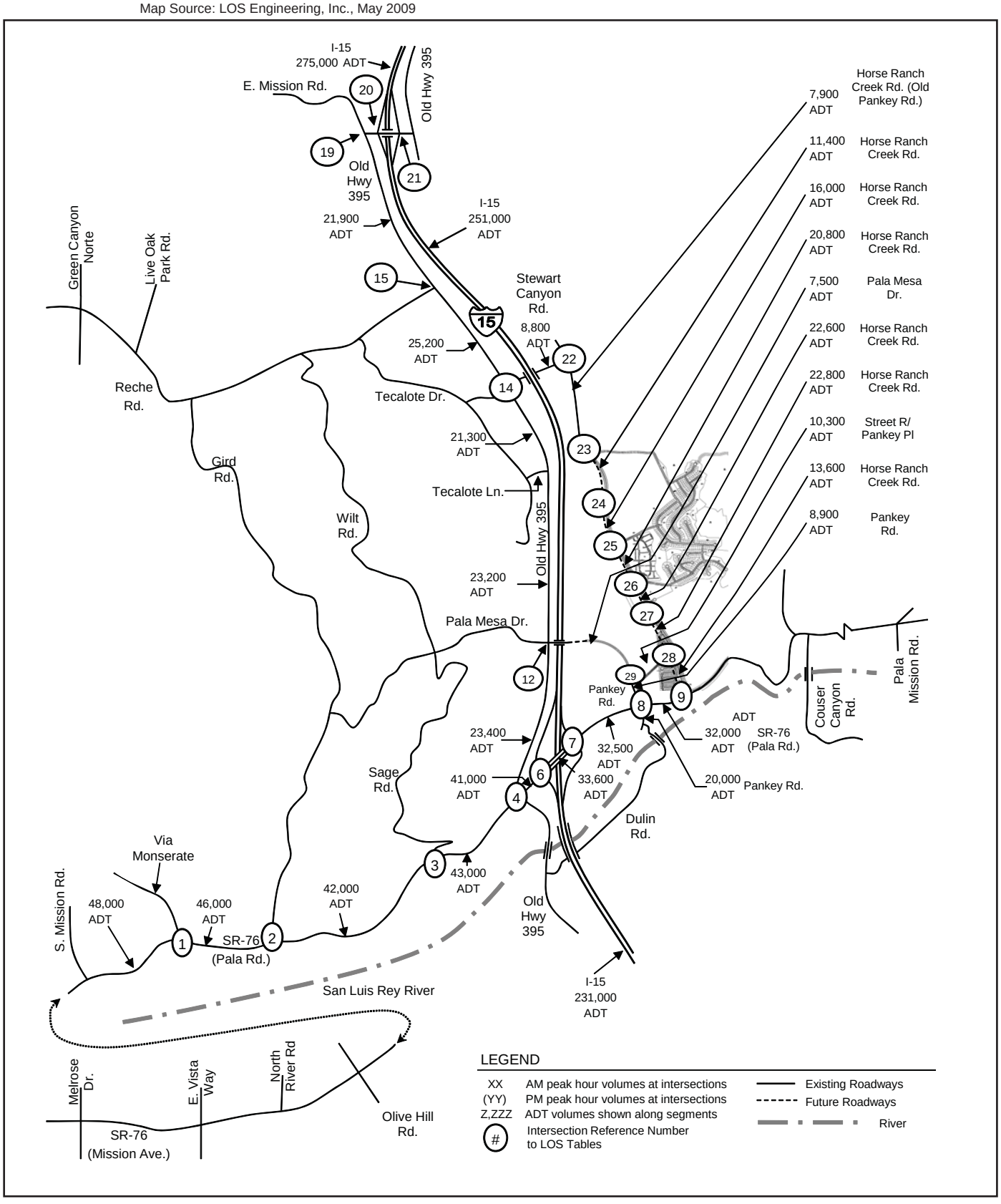
Map Source: LOS Engineering, Inc., May 2009



NO SCALE

FIGURE 2.3-13

Horizon Year + Project Volumes

RECON

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TABLE 2.3-1
EXISTING INTERSECTION LEVEL OF SERVICE

Intersection and (Analysis)[1]	Movement	Peak Hour	Existing Delay[2]	Existing LOS[3]
1) SR-76 (Pala Rd) at	SB LR	AM	86.1	**F**
Via Monserate (U)	SB LR	PM	91.4	**F**
	All	AM	5.0	A
	All	PM	2.9	A
2) SR-76 (Pala Rd) at	All	AM	12.9	B
Gird Rd (S)	All	PM	12.6	B
3) SR-76 (Pala Rd) at	SB LR	AM	22.6	C
Sage Rd (U)	SB LR	PM	33.0	D
	All	AM	0.2	A
	All	PM	0.4	A
4) SR-76 (Pala Rd) at	All	AM	29.7	C
Old Hwy 395 (S)	All	PM	30.2	C
6) SR-76 (Pala Rd) at	All	AM	27.5	C
I-15 SB Ramps (S)	All	PM	26.4	C
7) SR-76 (Pala Rd) at	All	AM	22.4	C
I-15 NB Ramps (S)	All	PM	43.6	D
8) SR-76 (Pala Rd) at	NB LTR	AM	12.2	B
Pankey Road (U)	NB LTR	PM	14.6	B
	SB LTR	AM	0.0	A
	SB LTR	PM	0.0	A
9) SR-76 (Pala Rd) at	Future	AM	DNE	NA
Horse Ranch Creek Rd (U)	Intersection	PM	DNE	NA
10) SR-76 (Pala Rd) at	SB LR	AM	10.7	B
Rice Canyon Road (U)	SB LR	PM	12.9	B
11) SR-76 (Pala Rd) at	NB LR	AM	11.9	B
Couser Canyon Road (U)	NB LR	PM	14.2	B
12) Old Highway 395 at	EB LR	AM	11.0	B
Pala Mesa Dr (U)	EB LR	PM	11.1	B
14) Old Highway 395 at	WB LTR	AM	10.8	B
Stewart Canyon Road (U)	WB LTR	PM	11.9	B
15) Old Highway 395 at	EB LR	AM	18.4	C
Reche Road (U)	EB LR	PM	35.9	**E**
	All	AM	10.6	B
	All	PM	17.6	B
19) Mission Road at	SB L	AM	12.2	B
Old Highway 395 (S)	SB L	PM	23.0	C
20) Mission Road at	SB LTR	AM	20.6	C
I-15 SB Ramps (S)	SB LTR	PM	17.8	B
21) Mission Road at	All	AM	17.2	B
I-15 NB Ramps (S)	All	PM	37.5	D
22) Stewart Canyon Rd at	EB LR	AM	8.7	A
HRCR/Pankey Road (U)	EB LR	PM	8.7	A
23) Horse Ranch Crk Rd at	WB LR	AM	DNE	NA
Baltimore Oriole (U)	WB LR	PM	DNE	NA
24) Horse Ranch Crk Rd at	All	AM	DNE	NA
Longspur Rd (S)	All	PM	DNE	NA
25) Horse Ranch Crk Rd at	WB LR	AM	DNE	NA
Harvest Glen Ln (U)	WB LR	PM	DNE	NA
26) Horse Ranch Crk Rd at	WB LR	AM	DNE	NA
Pardee South Loop (U)	WB LR	PM	DNE	NA
27) Horse Ranch Crk Rd at	All-Way	AM	DNE	NA
School/Park Access (U)	All-Way	PM	DNE	NA
28) Horse Ranch Crk Rd	EB LR	AM	DNE	NA
at Street R (U)	EB LR	PM	DNE	NA
29) Pankey/Pala Mesa Dr	WB LR	AM	DNE	NA
at Street R (U)	WB LR	PM	DNE	NA
31) SR-76 (Mission Ave) at	All	AM	60.9	**E**
E. Vista Way (S)	All	PM	48.4	D
32) SR-76 (Mission Ave) at	All	AM	61.7	**E**
North River Rd (S)	All	PM	29.7	C
33) SR-76 (Mission Ave) at	All	AM	53.8	D
Olive Hill Rd (S)	All	PM	52.9	D
34) SR-76 (Mission Ave) at	All	AM	18.9	B
S. Mission Rd (S)	All	PM	21.5	C
37) SR-76 (Pala Rd.) at	All	AM	29.3	C
Pala Mission Rd. (S)	All	PM	32.4	C

Notes: HRCR: Horse Ranch Creek Rd. 1) Intersection Analysis - (S) Signalized, (U) Unsignalized 2) Delay - HCM Average
3) LOS: Level of Service.

TABLE 2.3-2A
EXISTING SEGMENT ADT VOLUMES AND LEVEL OF SERVICE

Segment	Classification Circulation Element (9/05)	Existing Daily Volume	# of lanes	LOS E Capacity	V/C	LOS
Old Highway 395						
East Mission Road to Reche Road	Collector	5,155	2	16,200	0.32	C
Reche Road to Stewart Canyon Road	Collector	5,646	2	16,200	0.35	C
Pala Mesa Drive to SR-76 (Pala Road)	Collector	8,302	2	16,200	0.51	D
Stewart Canyon Road						
Old Hwy 395 to Horse Ranch Creek Rd	Collector	590	2	16,200	0.04	A
Pankey Road						
Stewart Canyon Rd to Baltimore Oriole (#23)	Light Collector	40	2	16,200	0.00	A
Break in Pankey Road						
Street R/Pankey Place to SR-76 (Pala Rd)	Light Collector	Minimal	2	16,200	0.00	A
SR-76 (Pala Road) to Dulin Rd	Light Collector	936	2	16,200	0.06	A

Notes: Classification per September 2005 Circulation Element Maps. Daily volume is a 24 hour volume.
LOS: Level of Service. V/C: Volume to Capacity ratio. NA: Not Applicable.

TABLE 2.3-2B
EXISTING STATE ROUTE VOLUMES AND LOS (WITH GRANITE IMPROVEMENT)

State Route 76	Lanes in	AM (Eastbound)					AM (Westbound)					PM (Eastbound)					PM (Westbound)				
Study Limits (direct & cumulative)	each dir	Vol	Dir	Cap	v/c	LOS	Vol	Dir	Cap	v/c	LOS	Vol	Dir	Cap	v/c	LOS	Vol	Dir	Cap	v/c	LOS
E. Vista Way to North River Rd	1	718	EB	950	0.76	D	1040	WB	950	1.09	**F**	1107	EB	950	1.17	**F**	652	WB	950	0.69	C
North River Rd to Olive Hill Rd	1	852	EB	950	0.90	**E**	1200	WB	950	1.26	**F**	1176	EB	950	1.24	**F**	781	WB	950	0.82	D
Olive Hill Rd to Mission Rd	1	1031	EB	950	1.09	**F**	1245	WB	950	1.31	**F**	1457	EB	950	1.53	**F**	1069	WB	950	1.13	**F**
Mission Rd to Via Monserate	1	745	EB	950	0.78	D	901	WB	950	0.95	**E**	1064	EB	950	1.12	**F**	618	WB	950	0.65	C
Via Monserate to Gird Rd	1	808	EB	950	0.85	D	895	WB	950	0.94	**E**	1077	EB	950	1.13	**F**	786	WB	950	0.83	D
Gird Rd to Sage Rd	1	740	EB	950	0.78	D	542	WB	950	0.57	C	645	EB	950	0.68	C	742	WB	950	0.78	D
Sage Rd to Old Hwy 395	1	760	EB	950	0.80	D	534	WB	950	0.56	C	638	EB	950	0.67	C	768	WB	950	0.81	D
Old Hwy 395 to I-15 SB Ramps	2	1507	EB	2050	0.74	**D**	665	WB	2028	0.33	B	816	EB	2050	0.40	B	1258	WB	2028	0.62	C
I-15 SB Ramps to I-15 NB Ramps	1	844	EB	950	0.89	**E**	539	WB	950	0.57	C	718	EB	950	0.76	D	1153	WB	950	1.21	**F**
I-15 NB Ramps to Pankey Rd	2	559	EB	3100	0.18	A	606	WB	3030	0.20	A	696	EB	3100	0.22	A	820	WB	3030	0.27	A
Pankey Rd to Horse Ranch Creek Rd	2	589	EB	1806	0.33	B	540	WB	2028	0.27	A	631	EB	1806	0.35	B	897	WB	2028	0.44	B
Horse Ranch Creek Rd to Rice Cyn	1	588	EB	950	0.62	C	539	WB	950	0.57	C	631	EB	950	0.66	C	897	WB	950	0.94	**E**
Rice Cyn to Couser Cyn	1	589	EB	950	0.62	C	540	WB	950	0.57	C	526	EB	950	0.55	C	930	WB	950	0.98	**E**
Couser Cyn to Pala Mission Rd	1	634	EB	950	0.67	C	357	WB	950	0.38	B	434	EB	950	0.46	B	950	WB	950	1.00	**F**

Source: SANDAG Hwycov 2007. Notes: Dir = Direction. Vol = Volume. Cap = Capacity. v/c = volume to capacity ratio. LOS = Level of Service.

TABLE 2.3-3
EXISTING FREEWAY VOLUMES AND LOS

Freeway	**I-15**				**I-15**				**I-15**			
Segment	Rainbow Valley Blvd to Mission Rd				Mission Rd to SR-76 (Pala Rd)				SR-76 to Escondido Hwy (Old 395)			
Existing (Year 2006)												
ADT	136,000				127,000				120,000			
Peak Hour	A M		P M		A M		P M		A M		P M	
Direction	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
Number of Lanes	4	4	4	4	4	4	4	4	4	4	4	4
Capacity (1)	9,400	9,400	9,400	9,400	9,400	9,400	9,400	9,400	9,400	9,400	9,400	9,400
K Factor (2)	0.0619	0.0619	0.0738	0.0738	0.0619	0.0619	0.0738	0.0738	0.0590	0.0590	0.0723	0.0723
D Factor (3)	0.1653	0.8347	0.6398	0.3602	0.1653	0.8347	0.6398	0.3602	0.1989	0.8011	0.6955	0.3045
Truck Factor (4)	0.9186	0.9186	0.9186	0.9186	0.9186	0.9186	0.9186	0.9186	0.8977	0.8977	0.8977	0.8977
Peak Hour Volume	1,515	7,650	6,991	3,936	1,415	7,143	6,528	3,675	1,569	6,318	6,722	2,943
Volume to Capacity	0.161	0.814	0.744	0.419	0.150	0.760	0.694	0.391	0.167	0.672	0.715	0.313
LOS	A	D	C	A	A	C	C	A	A	C	C	A

Notes: (1) Capacity of 2,350 passenger cars per hour per lane (pcphpl) from Caltrans' Guide for the Preparation of Traffic Impact Studies, Dec 2002. (2) Latest K factor from Caltrans (based on 2005 data), which is the percentage of Annual Average Daily Traffic (AADT) in both directions. (3) Latest D factor from Caltrans (based on 2005 data), which when multiplied by K and ADT will provide peak hour volume. (4) Latest truck factor from Caltrans (based on 2000 data).

TABLE 2.3-4
PROJECT TRIP GENERATION

Proposed									**AM**					**PM**	
Land Use	**Rate**	**Size & Units**		**ADT**	**%**	**Split**			**IN**	**OUT**	**%**	**Split**		**IN**	**OUT**
Residential - Single Family	10 /DU	355	DU	**3,550**	8%	0.3	0.7		**85**	**199**	10%	0.7	0.3	**249**	**107**
Residential - Multi Family	8 /DU	503	DU	**4,024**	8%	0.2	0.8		**65**	**257**	10%	0.7	0.3	**282**	**121**
Residential Subtotal		**858**		**7,574**					**150**	**456**				**531**	**228**
Neighborhood Park	5 /Acre	10.0	Acres	**50**	4%	0.5	0.5		**1**	**1**	8%	0.5	0.5	**2**	**2**
Elementary School	90 /Acre	12.7	Acres (1)	**1,116**	32%	0.6	0.4		**214**	**143**	9%	0.4	0.6	**41**	**60**
School & Park Subtotal				**1,166**					**215**	**144**				**43**	**62**
Total				**8,740**					**365**	**600**				**574**	**290**

Source: SANDAG *Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region,* April 2002. DU - Dwelling Unit; ADT-Average Daily Traffic; Split-percent inbound and outbound. (1) School site of 12.7 acres includes a detention basin, thus a usable size of 12.4 acres was used for the traffic generation. This 12.4 usable acres may be conservative as the site is a cone shape that may yield less usable space.

TABLE 2.3-5
EXISTING + PROJECT INTERSECTION LOS

Intersection & (Analysis)[1]	Move-ment	Peak Hour	Existing		Existing + Project				County	CMP
			Delay[2]	LOS[3]	Delay[2]	LOS[3]	Delta[4]	CM Vol[5]	Sig[6]	Sig[7]
1) SR-76 (Pala Rd) at	SB LR	AM	86.1	**F**	106.2	**F**	NA	0	No	NA
Via Monserate (U)	SB LR	PM	91.4	**F**	113.4	**F**	NA	0	No	NA
	All	AM	5.0	A	5.9	A	0.9	NA	NA	No
	All	PM	2.9	A	3.4	A	0.5	NA	NA	No
2) SR-76 (Pala Rd) at	All	AM	12.9	B	13.7	B	0.8	NA	No	No
Gird Rd (S)	All	PM	12.6	B	13.0	B	0.4	NA	No	No
3) SR-76 (Pala Rd) at	SB LR	AM	22.6	C	24.2	C	NA	0	No	NA
Sage Rd (U)	SB LR	PM	33.0	D	36.3	**E**	NA	0	No	NA
	All	AM	0.2	A	0.3	A	0.1	NA	NA	No
	All	PM	0.4	A	0.5	A	0.1	NA	NA	No
4) SR-76 (Pala Rd) at	All	AM	29.7	C	33.2	C	3.5	NA	No	No
Old Hwy 395 (S)	All	PM	30.2	C	33.5	C	3.3	NA	No	No
6) SR-76 (Pala Rd) at	All	AM	27.5	C	30.1	C	2.6	NA	No	No
I-15 SB Ramps (S)	All	PM	26.4	C	26.9	C	0.5	NA	No	No
7) SR-76 (Pala Rd) at	All	AM	22.4	C	29.2	C	6.8	NA	No	No
I-15 NB Ramps (S)	All	PM	43.6	D	49.4	D	5.8	NA	No	No
8) SR-76 (Pala Rd) at	NB LTR	AM	12.2	B	15.7	C	NA	4	No	NA
Pankey Road (U)	NB LTR	PM	14.6	B	22.8	C	NA	16	No	NA
	SB LTR	AM	0.0	A	12.1	B	NA	34	No	NA
	SB LTR	PM	0.0	A	13.3	B	NA	17	No	NA
9) SR-76 (Pala Rd) at	All	AM	DNE	NA	12.8	B	NA	NA	No	No
Horse Ranch Creek Rd (U)	All	PM	DNE	NA	16.4	B	NA	NA	No	No
12) Old Highway 395 at	EB LTR	AM	11.0	B	11.7	B	NA	4	No	NA
Pala Mesa Dr (U)	EB LTR	PM	11.1	B	13.5	B	NA	16	No	NA
East leg completed	WB LTR	AM	DNE	NA	14.4	B	NA	75	No	NA
with project	WB LTR	PM	DNE	NA	17.3	C	NA	37	No	NA
14) Old Highway 395 at	WB LTR	AM	10.8	B	10.8	B	NA	129	No	No
Stewart Canyon Road (U)	WB LTR	PM	11.9	B	13.8	B	NA	65	No	No
15) Old Highway 395 at	EB LR	AM	18.4	C	28.7	D	NA	10	No	No
Reche Road (U)	EB LR	PM	35.9	**E**	105.5	**F**	NA	32	**Yes**	No
	All	AM	10.6	B	13.6	B	3.0	NA	NA	No
	All	PM	17.6	B	42.1	**E**	24.5	NA	NA	**Yes**
19) Mission Road at	SB L	AM	12.2	B	13.3	B	1.1	NA	No	No
Old Highway 395 (S)	SB L	PM	23.0	C	34.1	C	11.1	NA	No	No
20) Mission Road at	SB LTR	AM	20.6	C	28.7	C	8.1	NA	No	No
I-15 SB Ramps (S)	SB LTR	PM	17.8	B	27.4	C	9.6	NA	No	No
21) Mission Road at	All	AM	17.2	B	18.7	B	1.5	NA	No	No
I-15 NB Ramps (S)	All	PM	37.5	D	42.1	D	4.6	NA	No	No
22) Stewart Canyon Rd at	EB LR	AM	8.7	A	9.3	A	NA	43	No	No
HRCR/Pankey Road (U)	EB LR	PM	8.7	A	9.3	A	NA	151	No	No
23) Horse Ranch Crk Rd at	WB LR	AM	DNE	NA	9.6	A	NA	32	No	No
Baltimore Oriole (U)	WB LR	PM	DNE	NA	9.4	A	NA	11	No	No
25) Horse Ranch Crk Rd at	WB LR	AM	DNE	NA	11.8	B	NA	177	No	No
Harvest Glen Ln (U)	WB LR	PM	DNE	NA	11.2	B	NA	82	No	No
26) Horse Ranch Crk Rd at	WB LR	AM	DNE	NA	16.0	C	NA	255	No	No
Pardee South Loop (U)	WB LR	PM	DNE	NA	13.8	B	NA	110	No	No
27) Horse Ranch Crk Rd at	All-Way	AM	DNE	NA	12.8	B	NA	144	No	No
School/Park Access (U)	All-Way	PM	DNE	NA	9.6	A	NA	62	No	No
28) Horse Ranch Crk Rd	EB LR	AM	DNE	NA	11.4	B	NA	128	No	No
at Street R (U)	EB LR	PM	DNE	NA	13.3	B	NA	137	No	No
29) Pankey/Pala Mesa Dr	WB LR	AM	DNE	NA	8.9	A	NA	109	No	No
at Street R (U)	WB LR	PM	DNE	NA	9.1	A	NA	54	No	No

Notes: 1) Intersection Analysis - (S) Signalized, (U) Unsignalized 2) Delay - HCM Control Delay in seconds. 3) LOS: Level of Service. 4) Delta is the increase in delay from project. 5) CM Vol: Critical Movement Volume used to show project volumes on the critical movement. 6) County Sig: is the project have a calculated impact based on the critical volume (Yes or No). 7) CMP Sig: Congention Mangement Program significant impact based on CMP criteria (Yes or No). DNE: Does Not Exist. NA: Not Applicable

TABLE 2.3-6A
EXISTING + PROJECT SEGMENT ADT VOLUMES AND LOS

Segment	Sept 2005 Circulation Element Class.	Existing					Project	Existing + Project						County Sig Impact?	CMP Sig Impact?
		Daily Volume	# of Lanes	LOS E Capacity	V/C	LOS	Daily Volume	Daily Volume	LOS E Capacity	V/C	LOS	Change in V/C			
Old Highway 395															
East Mission Road to Reche Road	Collector	5,155	2	16,200	0.318	C	1,583	6,738	16,200	0.416	C	0.098		No	No
Reche Road to Stewart Canyon Road	Collector	5,646	2	16,200	0.349	C	2,035	7,681	16,200	0.474	D	0.126		No	No
Pala Mesa Drive to SR-76 (Pala Road)	Collector	8,302	2	16,200	0.512	D	791	9,093	16,200	0.561	D	0.049		No	No
Stewart Canyon Road															
Old Hwy 395 to Horse Ranch Creek Rd	Collector	590	2	16,200	0.036	A	2,148	2,738	16,200	0.169	B	0.133		No	No
Pankey Road															
Street R/Pankey Place to SR-76 (Pala Rd)	Light Collector	0	2	16,200	0.000	A	565	565	16,200	0.035	A	0.035		No	No
Horse Ranch Creek Road															
Stewart Canyon Rd to Baltimore Oriole (#23)	Light Collector	40	2	16,200	0.002	A	2,148	2,188	16,200	0.135	B	0.135		No	No
Baltimore Oriole (#23) to Longspur Rd (#24)	Light Collector	0	2	16,200	0.000	A	2,322	2,322	16,200	0.143	B	0.143		No	No
Longspur Rd (#24) to Harvest Glen Ln (#25)	Light Collector	0	2	16,200	0.000	A	2,577	2,577	16,200	0.159	B	0.159		No	No
Harvest Glen Ln (#25) to Intersection (#26)	Light Collector	0	2	16,200	0.000	A	3,834	3,834	16,200	0.237	B	0.237		No	No
Intersection (#26) to Park/School (#27)	Light Collector	0	2	16,200	0.000	A	5,681	5,681	16,200	0.351	C	0.351		No	No
Park/Sch (#27) to Street R/Pankey Pl (#28)	Light Collector	0	2	16,200	0.000	A	5,794	5,794	16,200	0.358	C	0.358		No	No
Street R/Pankey Pl (#28) to SR-76 (Pala Rd)	Light Collector	0	2	16,200	0.000	A	3,617	3,617	16,200	0.223	B	0.223		No	No
Pala Mesa Drive															
Old Highway 395 to Street R/Pankey Pl	Light Collector	0	2	16,200	0.000	A	1,244	1,244	16,200	0.077	A	0.077		No	No
Street R/Pankey Place															
Pala Mesa/Pankey to Horse Ranch Creek Rd	Light Collector	0	2	16,200	0.000	A	1,809	1,809	16,200	0.112	A	0.112		No	No

Notes:Classification (Sept 2005 Circulation Element). Daily volume is a 24 hour volume. LOS: Level of Service. V/C: Volume to Capacity ratio.
Daily volume is a 24 hour volume. LOS: Level of Service. V/C: Volume to Capacity ratio.

TABLE 2.3-6B:
EXISTING + PROJECT STATE ROUTE VOLUMES AND LOS (AM/PM)

State Route 76	Lanes in	AM (Eastbound)					Project			Change In			AM (Westbound)					Project			Change In			v/c	
Study Limits	**each dir**	**E vol**	**Dir**	**Cap**	**v/c**	**LOS**	**Vol**	**E+P**	**v/c**	**LOS**	**v/c**	**Sig**	**Vol**	**Dir**	**Cap**	**v/c**	**LOS**	**Vol**	**E+P**	**v/c**	**Sig**	**Delta**	**Sig**
Via Monserate to Gird Rd	1	808	EB	950	0.85	D	16	824	0.87	**E**	0.02	**Yes**	895	WB	950	0.94	**E**	48	943	0.99	**E**	0.05	**Yes**
Gird Rd to Sage Rd	1	740	EB	950	0.78	D	16	756	0.80	D	0.02	No	542	WB	950	0.57	C	48	590	0.62	C	0.05	No
Sage Rd to Old Hwy 395	1	760	EB	950	0.80	D	16	776	0.82	D	0.02	No	534	WB	950	0.56	C	48	582	0.61	C	0.05	No
Old Hwy 395 to I-15 SB Ramps	2	1507	EB	2050	0.74	D	4	1511	0.74	D	0.00	No	665	WB	2028	0.33	B	14	679	0.33	B	0.01	No
I-15 SB Ramps to I-15 NB Ramps	1	844	EB	950	0.89	**E**	22	866	0.91	**E**	0.02	**Yes**	539	WB	950	0.57	C	150	689	0.73	D	0.16	No
I-15 NB Ramps to Pankey Rd	2	559	EB	3100	0.18	A	67	626	0.20	A	0.02	No	606	WB	3030	0.20	A	204	810	0.27	A	0.07	No
Pankey Rd to Horse Ranch Creek Rd	2	589	EB	1806	0.33	B	60	649	0.36	B	0.03	No	540	WB	2028	0.27	A	184	724	0.36	B	0.09	No

Source: SANDAG Hwycov 2007. Notes: Dir = Direction. Vol = Volume. Cap = Capacity. v/c = volume to capacity ratio. LOS = Level of Service.

State Route 76	Lanes in	PM (Eastbound)					Project			Change In			PM (Westbound)					Project			Change In		
Study Limits	**each dir**	**E Vol**	**Dir**	**Cap**	**v/c**	**LOS**	**Vol**	**E+P**	**v/c**	**LOS**	**v/c**	**Sig**	**E Vol**	**Dir**	**Cap**	**v/c**	**LOS**	**Vol**	**E+P**	**v/c**	**LOS**	**v/c**	**Sig**
Via Monserate to Gird Rd	1	1077	EB	950	1.13	**F**	55	1132	1.19	**F**	0.06	**Yes**	786	WB	950	0.83	D	24	810	0.85	D	0.03	No
Gird Rd to Sage Rd	1	645	EB	950	0.68	C	55	700	0.74	D	0.06	No	742	WB	950	0.78	D	24	766	0.81	D	0.03	No
Sage Rd to Old Hwy 395	1	638	EB	950	0.67	C	55	693	0.73	D	0.06	No	768	WB	950	0.81	D	24	792	0.83	D	0.03	No
Old Hwy 395 to I-15 SB Ramps	2	816	EB	2050	0.40	B	16	832	0.41	B	0.01	No	1258	WB	2028	0.62	C	7	1265	0.62	C	0.00	No
I-15 SB Ramps to I-15 NB Ramps	1	718	EB	950	0.76	D	79	797	0.84	D	0.08	No	1153	WB	950	1.21	**F**	75	1228	1.29	**F**	0.08	**Yes**
I-15 NB Ramps to Pankey Rd	2	696	EB	3100	0.22	A	238	934	0.30	A	0.08	No	820	WB	3030	0.27	A	102	922	0.30	A	0.03	No
Pankey Rd to Horse Ranch Creek Rd	2	631	EB	1806	0.35	B	214	845	0.47	B	0.12	No	897	WB	2028	0.44	B	92	989	0.49	B	0.05	No

Source: SANDAG Hwycov 2007. Notes: Dir = Direction. Vol = Volume. Cap = Capacity. v/c = volume to capacity ratio. LOS = Level of Service.

TABLE 2.3-7
EXISTING + PROJECT FREEWAY VOLUMES AND LOS

Freeway	**I-15**				**I-15**				**I-15**			
Segment	Rainbow Valley Blvd to Mission Rd				Mission Rd to SR-76 (Pala Rd)				SR-76 to Escondido Hwy (Old 395)			
Existing (Year 2006)												
ADT	136,000				127,000				120,000			
Peak Hour	A M		P M		A M		P M		A M		P M	
Direction	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
Number of Lanes	4	4	4	4	4	4	4	4	4	4	4	4
Capacity (1)	9,400	9,400	9,400	9,400	9,400	9,400	9,400	9,400	9,400	9,400	9,400	9,400
K Factor (2)	0.0619	0.0619	0.0738	0.0738	0.0619	0.0619	0.0738	0.0738	0.059	0.059	0.0723	0.0723
D Factor (3)	0.1653	0.8347	0.6398	0.3602	0.1653	0.8347	0.6398	0.3602	0.1989	0.8011	0.6955	0.3045
Truck Factor (4)	0.9186	0.9186	0.9186	0.9186	0.9186	0.9186	0.9186	0.9186	0.8977	0.8977	0.8977	0.8977
Peak Hour Volume	1,515	7,650	6,991	3,936	1,415	7,143	6,528	3,675	1,569	6,318	6,722	2,943
Volume to Capacity	0.161	0.814	0.744	0.419	0.150	0.760	0.694	0.391	0.167	0.672	0.715	0.313
LOS	A	D	C	A	A	C	C	A	A	C	C	A
Project Pk Hr Vol	136	45	69	158	54	18	27	63	45	136	159	68
Existing + Project												
Peak Hour Volume	1,651	7,695	7,060	4,094	1,469	7,161	6,555	3,738	1,614	6,454	6,881	3,011
Volume to Capacity	0.176	0.819	0.751	0.435	0.156	0.762	0.697	0.398	0.172	0.687	0.732	0.320
LOS	A	D	C	B	A	C	C	A	A	C	C	A
Increase in V/C	0.014	0.005	0.007	0.017	0.006	0.002	0.003	0.007	0.005	0.014	0.017	0.007
Direct Impact?	No	No	No	No	No	No	No	No	No	No	No	No
CMP Impact?	No	No	No	No	No	No	No	No	No	No	No	No

Notes: (1) Capacity of 2,350 passenger cars per hour per lane (pcphpl) from Caltrans' Guide for the Preparation of Traffic Impact Studies, Dec 2002. (2) Latest K factor from Caltrans (based on 2005 data), which is the percentage of Annual Average Daily Traffic (AADT) in both directions. (3) Latest D factor from Caltrans (based on 2005 data), which when multiplied by K and ADT will provide peak hour volume. (4) Latest truck factor from Caltrans (based on 2000 data). CMP: Congestion Management Program impact.

TABLE 2.3-8
CUMULATIVE PROJECTS

#	Project Reference	Project Name	Location	Area (acres)	Proposed Improvements
1	TM 5338 GPA 03-004	Campus Park	Just north of SR 76, 0.25 mile east of I-15	417	Mixed-use development, including: 521 single family dwelling units, 555 multi-family dwelling units, a town center (retail) of 61,200 square feet, an office building with 157,000 square feet, a sports complex of 5.2 acres and a small neighborhood park.
2	TM 5424, S 05-014, SPA 05-001 GPA 05-003 REZ 05-005	Campus Park West	Northeast quadrant of I-15 and SR 76	118.5	Mixed-use development including approximately 395 MFR units, 110,000 s.f. General Commercial, 10 acres Highway Commercial and 300,000 s.f. Office Professional. Located mostly north of SR-76 with a portion south of SR-76.
3	TM 5187 RPL[11] SPA 99-005 MUP 99-020 REZ 99-020 MUP/REZ 04-024	Pala Mesa Highlands	West of Old Highway 395 between Pala Mesa Drive and Via Belamonte	84.6	Maximum of 130 SFR. Density 1.6 DU/acre. Lot sizes vary from 5,500 s.f. to 23,500 s.f., two parks totaling 4.3 acres, trails, 36.5 acres of open space. SPA to allow clustering.
4	TM 4729 RPL[3] TE	Tedder TM	South side of Pala Mesa Drive, west of I-15 and east of Daisy Lane	29.5	Split lot into 13 SFR lots, ranging in size from 1.0 to 6.43 acres net.
5	TPM 20830	Hukari subdivision	Northern terminus of Mountain View Road and West Lilac Road on west side of Bonsall	30	Minor residential subdivision with road improvements. 4 SFR lots plus one remainder lot (3.4 to 7.7 net acres each).
6	TM 5532 S 07-012	Fallbrook Ranch	East of Old Highway 395 and Sterling View Drive (at Mission Road), Fallbrook		11 SFR lots
7	MUP 03-127	Los Willows Inn and Spa	532 Stewart Canyon Road		Add additional units to a Bed and Breakfast
8	TPM 20411	Reeve TPM	2987 Sumac Road, Fallbrook	8.8	Minor residential subdivision. 3 SFR lots (2-acres minimum).

TABLE 2.3-8
CUMULATIVE PROJECTS
(CONTINUED)

#	Project Reference	Project Name	Location	Area (acres)	Proposed Improvements
9	TPM 20491	Evans TPM	West side of Sage Road between Sumac Road and Pala Road, Fallbrook	4.10	Minor subdivision into 2 residential/ agricultural parcels (2.00 and 2.10 acres). Private septic system.
10	TPM 20841	Bridge Pac West I TPM	3321 Sage Road, Fallbrook	15.90	Minor residential subdivision. 4 SFR lots plus one remainder lot (2.04, 2.08, 2.12, 2.14 and remainder 7.08 net acres each).
11	SPA 03-005 R 00-000 MUP 00-000 P 74-120W[1] P 74-121M[10] ; MUP 03-006; MUP 04-005	Pala Mesa Resort	2001 Old Highway 395 at Tecalote Lane, north of SR 76 and immediately west of I-15, Fallbrook	181.2	Specific Plan Amendment for modification and construction of new recreation and resort-related facilities. Addition of 186 resort rooms and wedding facility. Expansion of resort by 6 acres.
12	TPM 20431 S 98-006	Lung TPM	Citrus Drive and Calle Canonero, Fallbrook	10.7	Minor residential subdivision. 2 SFR lots (6.7 and 4.0 acres)
13	TPM 20440	Chipman TPM	East side of Citrus Lane between Peony Drive and Dos Ninos, Fallbrook	13.54	Minor residential subdivision. 4 SFR lots plus one remainder lot, ranging from 2.13 to 2.85 net acres each and remainder 4.00 net acres. Septic system.
14	TPM 20484	Bierman TPM	4065 Calle Canonero, Fallbrook, south of Vern Drive and west of Lorita Lane	9.91	Minor residential subdivision. 4 SFR lots, ranging from 2.01 to 2.19 net acres each. Septic system.
15	S 04-026	Cooke Residence	3974 Citrus Drive between Wilt Road and Vern Drive	N/A	4,723 s.f. SFR
16	TPM 20581	Treister TPM	Donut-shaped parcel surrounding 401 Ranger Road, Fallbrook	21.81	Minor residential subdivision. 4 SFR lots plus one remainder lot.
17	TPM 20793 03-02-068	Mission Ridge Road TPM	235 Mission Ridge Road east of I-15 off Mission Road, Fallbrook	19.55	Minor residential subdivision. 4 SFR lots.

TABLE 2.3-8
CUMULATIVE PROJECTS
(CONTINUED)

#	Project Reference	Project Name	Location	Area (acres)	Proposed Improvements
18	TM 5413	Rancho Alegre TPM	West side of Ranger Road approx. 0.4 mile north of Reche Road	70	Part of 116-acre subdivision (33 lots). This project consists of 20 lots in the eastern portion of property and proposes a different street alignment, grading, and lot arrangement.
19	TPM 20853	Rarick TPM	3261 Reche Road, Fallbrook	8.77	Minor residential subdivision. 4 SFR lots (ranging from 2.02 to 2.25 acres each). Septic system.
20	TPM 20936	Fernandez TPM	3838 Foxglove Lane, Fallbrook	10.4	Minor residential subdivision. 4 SFR lots. Minimum lot size 2 acres. 2 existing SFR on site.
21	TPM 20944	Rabuchin TPM	4065 Calle Canonero, Fallbrook	9.91	Subdivision of 2 lots into 4 SFR lots. Existing SFR on site
22	NA	Pala Casino	Pala Road and Pala Mission Road	TBD	187,300 s.f. casino, hotel, theater.
23	MUP 87-021 RPL[2] REZ P87-001 RPL[2]	Rosemary's Mountain/ Palomar Aggregates Quarry	North side of SR 76, 1.25 miles east of I-15	96.4	Aggregate rock quarry and processing plants for concrete and asphalt. Approximately 22 million tons of rock would be mined over 20 years. Realignment of SR 76 from Project site west to I-15. Reclamation Plan to designate lower portion of site as water storage reservoir after completion of mining activities.
24	TPM 20542	Patapoff Minor Residential Subdivision	Southern end of Rainbow Hills Road	59.1	Subdivide property into four parcels of 4.3 acres, 4.2 acres, 9.6 acres, 8acres, and a 33-acre parcel
25	TM 5321	Prominence at Pala	Pala Del Norte Road. 1/3 mile north of SR-76 and approximately two miles west of the Pala Indian Reservation	346.6	Subdivide the property into 30 SFR and two open space lots ranging in size from 4 to 96 acres

TABLE 2.3-8
CUMULATIVE PROJECTS
(CONTINUED)

#	Project Reference	Project Name	Location	Area (acres)	Proposed Improvements
26	NA	Palomar College North Education Center District Master Plan	East side of I-15 between Pankey Road and Pala Mesa Heights Drive	85	New Community College campus to serve approximately 12,000 students, to include classroom and administration buildings, parking, open space, athletic fields, and off-site road, water and sewer improvements.
27	NA	Caltrans Realignment of SR 76	From I-15 to west of Rice Canyon Road	NA	Realignment and widening of roadway, improvements to northbound I-15 on- and off-Ramp.
28	NA	San Luis Rey Municipal Water District (SLRMWD) Water, Wastewater and Recycled Water Master Plan	SLRMWD service area and vicinity, north and south of SR-76 between I-15 and Pala Temecula Road	Over 3,000	Exploration of pipeline and water storage options.
29	TM 5231		Canonita Drive and Old Hwy 395, Fallbrook	30.48	39 condo units
30	TM 5276		Aqueduct Road and Via Urner, Bonsall	12.8	8 SFR lots
31	TM 5346		Old Hwy 395 and Via Urner, Bonsall	38.4	9 SFR lots
32	TM 5410	Marquart Ranch	West Lilac Road and Mesa Lilac Road, Bonsall	44.2	9 SFR lots. Includes improvements to West Lilac Road and Mesa Lilac Road, and drainage improvements.
33	TM 5449	Fallbrook Oaks	Reche Road and Ranger Road, Fallbrook	26	19 SFR lots
34	TM 5469	Ridge Creek Drive	Ridge Creek east of Live Oak Park Road and Ridge Drive, Fallbrook	30.4	14 SFR lots
35	TM 5499	Club Estates	SR 76 east of Cole Grade Road at Pauma Valley Drive	48.3	31 SFR lots
36	TM 5540; MUP 07-007	Oak Tree Ranch TM	15560 Spring Valley Road	9.95	24 SFR

TABLE 2.3-8
CUMULATIVE PROJECTS
(CONTINUED)

#	Project Reference	Project Name	Location	Area (acres)	Proposed Improvements
37	TM 5545	Turnbull TM	32979 Temet Drive	22.9	17 lots
38	TPM 20913	Wexler TPM		2.54	4 lots
39	TM 5223 MUP 00-030	Shadow Run Ranch	Shadow Run Ranch, SR-76 and Adams Drive, Pala	263	54 SFR lots and 2 open space lots. MUP filed concurrently for Planned Residential Development that would cluster residential development on minimum 2-acre lots.
40	TPM 20896	Diana Acres	Adams Drive off SR-76, Pauma Valley		3 lots
41	TPM 20804	Hunter Subdivsion	15550 Adams Drive	7.5	3 lots
42	TPM 20538	Burge TPM	34487 Citracado Drive, Pala	12.58	4 lots plus remainder
43	MUP 99-001	Pauma Valley Packing Company	34188 Hampton Road	4.14	Packing and processing
44	TM 5223; MUP 00-030	Shadow Run Ranch/Schoepe-Pauma TM	15040 Adams Drive	263.17	13 lots
45	TM 5508	Warner Ranch	Pala-Pauma	513	732 SFR lots, 168 condo units, community park, fire station lot
46	CASINO	Pauma Casino and Hotel	Approximately 11 miles east of I-15 along SR-76		400 room hotel and 171,000 s.f. casino
47	TPM 20451	De Jong/Pala Minor Subdivision	Canonita Drive between I-15 and Tecalote Drive	5.62	Minor residential subdivision. 3 SFR lots (1.03, 2.06 and 2.31 net acres each).
48	TPM 20800	Crossroads Investors Minor Subdivision	Ranger Road, Fallbrook	15.5	Minor residential subdivision. 4 SFR lots plus one remainder lot. Existing SFR and grove on site

TABLE 2.3-8
CUMULATIVE PROJECTS
(CONTINUED)

#	Project Reference	Project Name	Location	Area (acres)	Proposed Improvements
49	TM 5217/5225/5227/5228 MUP 00-027	Chaffin/Red Mountain Ranch Subdivisions	Rainbow Glen Road and Red Mountain Dam Road, Fallbrook	455.9	TM 5217: Residential development with 29 SFR lots (2.28 to 18.33 acres) and 2 biological open space zones. TM 5225: 55 acres divided into 6 SFR lots (8.1 to 13.9 acres). TM 5227: 44.5 acres divided into 4 SFR lots (8.08 to 13.71 acres each).TM 5228: 19.1 acres divided into 2 lots (8.4 and 10.7 acres).
50	TPM 20505	John Collins TPM	Margarita in Fallbrook	8.29	2 lots
51	TPM 21085	Brannon Trust TPM Remai	411 Yucca Road, Fallbrook		4+ lots
52	TPM 20976	Dien N Do TPM	405 Ranger Road		4+ lots
53	TPM 20373	Tim Rosa TPM	2973 Los Alisos Drive	13	4 lots plus remainder
54	TPM 20427	Leising TPM	1246 Via Vista	10.83	4 lots
55	TPM 20434	Atteberry TPM	1166 Sierra Bonita	9	3 lots
56	TPM 20980	Johnson TPM	3035 Trelawney Lane		2 lots
57	TPM 20381	Chipman TPM	Camino Zasa, Fallbrook	24.5	4 lots plus remainder
58	TPM 21047	American Lotus Bhuddist Association TPM	Reche Road at Rabbit Hill, Fallbrook		4 lots plus remainder lot
59	TM 5547	Reche Road TM	3129 Reche Road, Bonsall	33.5	12 SFR lots
60	TM 5158; RPL3	Palisades Estates	3880 Dos Niños Road/Elevado Road	408.4	51 lots
61	TPM 19742	Dion TPM and time extension	3562 Canonita Drive	7.5	2 lots
62	TPM 20476	Patricia Daniels TPM	3609 Canonita Road, Fallbrook	13.2	4 lots plus remainder

TABLE 2.3-8
CUMULATIVE PROJECTS
(CONTINUED)

#	Project Reference	Project Name	Location	Area (acres)	Proposed Improvements
63	TPM 20443	Cameron Subdivision	2644 Vista de Palomar, Fallbrook. North side of Vista de Palomar between Post Hill and Via Rancheros	11.31	Minor residential subdivision. 3 SFR lots (2.22, 2.44 and 6.37 acres each). Septic system.
64	TPM 20473	Tesla Gray TPM	East end of Vista de Palomar, and north end of Old Post Road, Fallbrook	28.91	Minor residential subdivision. 4 SFR lots plus one remainder lot. Future development of 5 SFR
65	TPM 20592	Aspel TPM	3107 Old Post Road, Fallbrook	7.32	Minor residential subdivision. 2 SFR lots (2.09 and 5.20 acres each).
66	TPM 20317	James Patapoff TPM	2639 Via Alicia, Fallbrook	16.8	Subdivision of 16.8 acres into 4 lots plus a remainder lot
67	TPM 20503	Yew Tree Spring Water Corporation	3573 Diego Estates Drive, Fallbrook	7.48	3 residential lots
68	TPM 20610	Haugh, Granger TPM	Fallbrook	12.94	4 lots
69	TPM 20614; RPL1	Brown, Lee & Karen, TPM	3850 Gird Road	6.46	3 lots
70	TPM 20648	Pepper Drive TPM	3926 Flowerwood Lane	1.39	4 residential lots
71	TM 4971	Surf Properties TM	3545 Vista Corona	46.89	15 lots
72	TM 4908	Brook Hills TM	4061 La Cañada Road, Fallbrook	96.71	35 lots
73	MUP 02-011	Latter-Day Saints/Via Monserate	Fallbrook	7.96	17,000 sq. ft. church and meeting rooms
74	TM 4976; RPL4	Leeds and Strausss TM	North side of Olive Hill Road, near intersection with SR-76, Bonsall	45.76	17 SFR lots – TM time extension until 09/13/2009
75	TM 5398	Murray Davidson	3956 Pala Mesa Road, Bonsall	4.28	7 lots
76	TPM 20173	Shamrock Partners TPM	Shamrock Road, Bonsall	10	3 lots

TABLE 2.3-8
CUMULATIVE PROJECTS
(CONTINUED)

#	Project Reference	Project Name	Location	Area (acres)	Proposed Improvements
77	TPM 20851	Crook TPM	32179 Shamrock Road		5 lots
78	TPM 20729	Tabata Bonsall TPM RPL1	5546 Mission Road	33.75	4 lots
79	TPM 20874	Berezousky TPM (311 Same as one in original latch)	4040 Pala Mesa Drive, Fallbrook	3.11	Subdivision of 3.11 acre into 4 residential lots. Existing SFR on site
80	TPM 20932	Murray Davidson TPM	3956 Pala Mesa Road, Fallbrook		Subdivision of 1 lot into 4 SFR lots plus a remainder lot
81	TPM 21076	Sumac TPM	3111 Sumac Road		4 lots
82	S 03-024	Janikowski SFR	9686 Pala Road (SR 76), Fallbrook, on north side of SR 76	5.12	3,200 s.f. SFR
83	TPM 19827	Kratochvid TPM; expired map	Old Highway 395	12.3	4 lots
84	TPM 20319	Kohl TPM	7641 Mount Ararat Way, Bonsall	9.71	4 lots plus remainder
85	TPM 20541	Woodhead TPM	Mt. Ararat Way, Bonsall	12.54	4 lots plus remainder
86	TPM 20596	Rockefeller TPM	9590 Lilac Way, VC	5	2 lots
87	TPM 20763	McNulty TPM	32171 Dos Niñas	5.19	2 lots
88	TPM 20799	Stehly Caminito Quieto TPM	32009 Camto Quieto at West Lilac Road	11.69	4 lots
89	TPM 20845	Sanders TPM	West Lilac Road, 1.25 miles west of Old Highway 395		4 lots plus remainder lot
90	S 02-061	Pala Shopping Center	On Old Highway 395 just northwest of the intersection of I-15 and SR 76	3.88	Addition of 5 commercial buildings to an existing commercial site with grocery store.
91	TM 5489	Monserate TM	3624 Monserate Hill Road	24.6	7 SFR

TABLE 2.3-8
CUMULATIVE PROJECTS
(CONTINUED)

#	Project Reference	Project Name	Location	Area (acres)	Proposed Improvements
92	TPM 21075	Dimitri, Diffendale, and Kirk TPM	Monserate Hill Road and Monserate Place		4 lots
93	TPM 20994	Madrigal TPM	1055 Rainbow Valley Boulevard near Old Hwy 395		3 lots
94	MUP 07-009	Singh Power Plant	4 miles NE of I-15 on Pala Del Norte Road, north of SR 76	8.5	Power Generation facility
95	37-AA-0032	Gregory Landfill	Approximately 3.5 miles east of I-15 on SR-76	1,770	Landfill site for solid waste

TM = Tentative Map; S = Site Plan; REZ = Rezone; MUP = Major Use Permit; TPM = Tentative Parcel Map; ZAP = Minor Use Permit; RPL = Replacement Map; MFR = multi-family residential; SFR = single-family residential
NA = Not available

TABLE 2.3-9
EXISTING + CUMULATIVE INTERSECTION LOS

Intersection and (Analysis)[1]	Movement	Peak Hour	Existing + Cumulative	
			Delay[2]	LOS[3]
1) SR-76 (Pala Rd) at	SB LR	AM	>500	**F**
Via Monserate (U)	SB LR	PM	>500	**F**
	All	AM	>500	**F**
	All	PM	>500	**F**
2) SR-76 (Pala Rd) at	All	AM	53.4	D
Gird Rd (S)	All	PM	110.3	**F**
3) SR-76 (Pala Rd) at	SB LR	AM	38.5	**E**
Sage Rd (U)	SB LR	PM	38.4	**E**
	All	AM	>500	**F**
	All	PM	>500	**F**
4) SR-76 (Pala Rd) at	All	AM	257.8	**F**
Old Hwy 395 (S)	All	PM	252.1	**F**
6) SR-76 (Pala Rd) at	All	AM	96.5	**F**
I-15 SB Ramps (S)	All	PM	133.2	**F**
7) SR-76 (Pala Rd) at	All	AM	77.3	**E**
I-15 NB Ramps (S)	All	PM	118.0	**F**
8) SR-76 (Pala Rd) at	NB LTR	AM	>500	**F**
Pankey Road (U)	NB LTR	PM	>500	**F**
	SB LTR	AM	>500	**F**
	SB LTR	PM	>500	**F**
9) SR-76 (Pala Rd) at	Future	AM	19.1	B
Horse Ranch Creek Rd (U)	Intersection	PM	19.1	B
10) SR-76 (Pala Rd) at	SB LR	AM	191.8	**F**
Rice Canyon Road (U)	SB LR	PM	>500	**F**
11) SR-76 (Pala Rd) at	NB LR	AM	78.5	**F**
Couser Canyon Road (U)	NB LR	PM	385.8	**F**
12) Old Highway 395 at	EB LR	AM	>500	**F**
Pala Mesa Dr (U)	EB LR	PM	>500	**F**
14) Old Highway 395 at	WB LTR	AM	>500	**F**
Stewart Canyon Road (U)	WB LTR	PM	>500	**F**
15) Old Highway 395 at	EB LR	AM	>500	**F**
Reche Road (U)	EB LR	PM	>500	**F**
	All	AM	>500	**F**
	All	PM	>500	**F**
19) Mission Road at	SB L	AM	49.0	D
Old Highway 395 (S)	SB L	PM	106.3	**F**
20) Mission Road at	SB LTR	AM	71.6	**E**
I-15 SB Ramps (S)	SB LTR	PM	63.0	**E**
21) Mission Road at	All	AM	28.6	C
I-15 NB Ramps (S)	All	PM	87.3	**F**
22) Stewart Canyon Rd at	EB LR	AM	10.5	B
HRCR/Pankey Road (U)	EB LR	PM	11.9	B
23) Horse Ranch Crk Rd at	WB LR	AM	16.1	B
Baltimore Oriole (S)	WB LR	PM	17.4	B
24) Horse Ranch Crk Rd at	All	AM	21.3	C
Longspur Rd (S)	All	PM	23.6	C
25) Horse Ranch Crk Rd at	WB LR	AM	13.0	B
Harvest Glen Ln (S)	WB LR	PM	17.1	B
26) Horse Ranch Crk Rd at	WB LR	AM	9.9	A
Pardee South Loop (S)	WB LR	PM	11.8	B
27) Horse Ranch Crk Rd at	All-Way	AM	0.0	A
School/Park Access (U)	All-Way	PM	0.0	A
28) Horse Ranch Crk Rd	EB LR	AM	6.8	A
at Street R (S)	EB LR	PM	10.3	B
29) Pankey/Pala Mesa Dr	WB LR	AM	24.8	C
at Street R (S)	WB LR	PM	36.3	D
31) SR-76 (Mission Ave) at	All	AM	277.9	**F**
E. Vista Way (S)	All	PM	257.7	**F**
32) SR-76 (Mission Ave) at	All	AM	310.8	**F**
North River Rd (S)	All	PM	261.0	**F**
33) SR-76 (Mission Ave) at	All	AM	270.0	**F**
Olive Hill Rd (S)	All	PM	179.4	**F**
34) SR-76 (Mission Ave) at	All	AM	58.1	**E**
S. Mission Rd (S)	All	PM	83.5	**F**
37) SR-76 (Pala Rd.) at	All	AM	31.1	C
Pala Mission Rd. (S)	All	PM	42.3	D

Notes: 1) Intersection Analysis - (S) Signalized, (U) Unsignalized 2) Delay - HCM Control Delay in seconds. 3) LOS: Level of Service.

TABLE 2.3-10A
EXISTING + CUMULATIVE SEGMENT ADT VOLUMES AND LOS

Segment	Sept 2005 Circulation Element Class. (proposed)	Existing # of Lanes [Proposed by Other Projects]	Existing + Cumulative			
			Daily Volume	LOS E Capacity	V/C	LOS
Old Highway 395						
East Mission Road to Reche Road	Collector	2	18,317	16,200	1.13	**F**
Reche Road to Stewart Canyon Road	Collector	2	21,265	16,200	1.31	**F**
Pala Mesa Drive to SR-76 (Pala Road)	Collector	2	20,109	16,200	1.24	**F**
Stewart Canyon Road						
Old Hwy 395 to Horse Ranch Creek Rd	Collector	2	6,624	16,200	0.41	C
Pankey Road						
Street R/Pankey Place to SR-76 (Pala Rd)	(Collector)	[Pappas 4 lanes]	8,244	34,200	0.24	A
SR-76 (Pala Road) to Shearer Crossing	Light Collector	2	7,657	16,200	0.47	D
Horse Ranch Creek Road						
Stewart Canyon Rd to Baltimore Oriole (#23)	Light Collector	2	5,745	16,200	0.35	C
Baltimore Oriole (#23) to Longspur Rd (#24)	(Boulevard 4.2A)	[PPP 4 lanes]	9,052	27,000	0.34	Un
Longspur Rd (#24) to Harvest Glen Ln (#25)	(Boulevard 4.2A)	[PPP 4 lanes]	13,363	27,000	0.49	Un
Harvest Glen Ln (#25) to Intersection (#26)	(Boulevard 4.2A)	[PPP 4 lanes]	16,955	27,000	0.63	Un
Intersection (#26) to Park/School (#27)	(Boulevard 4.2A)	[PPP 4 lanes]	16,824	27,000	0.62	Un
Park/Sch (#27) to Street R/Pankey Pl (#28)	(Boulevard 4.2A)	[PPP 4 lanes]	16,972	27,000	0.63	Un
Street R/Pankey Pl (#28) to SR-76 (Pala Rd)	(Boulevard 4.2A)	[PPP 4 lanes]	9,968	27,000	0.37	Un
Pala Mesa Drive						
Old Highway 395 to Street R/Pankey Pl	(Light Collector)	2	6,178	16,200	0.38	C
Street R/Pankey Place						
Pala Mesa/Pankey to Horse Ranch Creek Rd	(Light Collector)	2	8,398	16,200	0.52	D

Notes: (proposed GP classification). [proposed party to implement improvement. PPP = Pardee, Passerelle, and Palomar] [Granite 4 lanes until their driveway] LOS: Level of Service. V/C: Volume to Capacity ratio. Daily volumes is a 24 hour volume. LOS for proposed classification is classification is identiified as "Un" as under capacity and "Ov" for over capacity.

TABLE 2.3-10B
EXISTING + CUMULATIVE STATE ROUTE VOLUMES AND LOS

State Route 76	Lanes in	E+C	AM (Eastbound)				E+C	AM (Westbound)				E+C	PM (Eastbound)				E+C	PM (Westbound)			
Study Limits (cumulative)	each dir	Vol	Dir	Cap	v/c	LOS	Vol	Dir	Cap	v/c	LOS	Vol	Dir	Cap	v/c	LOS	Vol	Dir	Cap	v/c	LOS
E. Vista Way to North River Rd	1	1176	EB	950	1.24	**F**	1950	WB	950	2.05	**F**	2019	EB	950	2.13	**F**	1402	WB	950	1.48	**F**
North River Rd to Olive Hill Rd	1	1380	EB	950	1.45	**F**	2387	WB	950	2.51	**F**	2553	EB	950	2.69	**F**	1594	WB	950	1.68	**F**
Olive Hill Rd to S Mission Rd	1	1485	EB	950	1.56	**F**	2526	WB	950	2.66	**F**	2528	EB	950	2.66	**F**	1831	WB	950	1.93	**F**
S Mission Rd to Via Monserate	1	1079	EB	950	1.14	**F**	1692	WB	950	1.78	**F**	2225	EB	950	2.34	**F**	1481	WB	950	1.56	**F**
Via Monserate to Gird Rd	1	1124	EB	950	1.18	**F**	1748	WB	950	1.84	**F**	2022	EB	950	2.13	**F**	1337	WB	950	1.41	**F**
Gird Rd to Sage Rd	1	1115	EB	950	1.17	**F**	1291	WB	950	1.36	**F**	1345	EB	950	1.42	**F**	1212	WB	950	1.28	**F**
Sage Rd to Old Hwy 395	1	1202	EB	950	1.27	**F**	1313	WB	950	1.38	**F**	1468	EB	950	1.55	**F**	1424	WB	950	1.50	**F**
Old Hwy 395 to I-15 SB Ramps	2	1339	EB	2050	0.65	C	1251	WB	2028	0.62	C	1470	EB	2050	0.72	D	1524	WB	2028	0.75	D
I-15 SB Ramps to I-15 NB Ramps	1	1000	EB	950	1.05	**F**	844	WB	950	0.89	**E**	1278	EB	950	1.35	**F**	1210	WB	950	1.27	**F**
I-15 NB Ramps to Pankey Rd	2	775	EB	3100	0.25	A	841	WB	3030	0.28	A	1211	EB	3100	0.39	B	960	WB	3030	0.32	B
Pankey Rd to Horse Ranch Creek Rd	2	544	EB	1806	0.30	A	1000	WB	2028	0.49	B	1066	EB	1806	0.59	C	1265	WB	2028	0.62	C
Horse Ranch Creek Rd to Rice Cyn	1	570	EB	950	0.60	C	1173	WB	950	1.23	**F**	1263	EB	950	1.33	**F**	1317	WB	950	1.39	**F**
Rice Cyn to Couser Cyn	1	1690	EB	950	1.78	**F**	829	WB	950	0.87	**E**	1015	EB	950	1.07	**F**	1303	WB	950	1.37	**F**
Couser Cyn to Pala Mission Rd	1	823	EB	950	0.87	**E**	667	WB	950	0.70	C	831	EB	950	0.87	**E**	1211	WB	950	1.27	**F**

Source: SANDAG Year 2030 Cumulative Map. Notes: Dir = Direction. Vol = Volume. Cap = Capacity. v/c = volume to capacity ratio. LOS = Level of Service. E: Existing. C: Cumulative

TABLE 2.3-11
EXISTING + CUMULATIVE FREEWAY VOLUMES AND LOS

Freeway	**I-15**				**I-15**				**I-15**			
Segment	Rainbow Valley Blvd to Mission Rd				Mission Rd to SR-76 (Pala Rd)				SR-76 to Escondido Hwy (Old 395)			
Existing (Year 2006)												
ADT	136,000				127,000				120,000			
Peak Hour	A M		P M		A M		P M		A M		P M	
Direction	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
Number of Lanes	4	4	4	4	4	4	4	4	4	4	4	4
Capacity (1)	9400	9400	9400	9400	9400	9400	9400	9400	9400	9400	9400	9400
K Factor (2)	0.0619	0.0619	0.0738	0.0738	0.0619	0.0619	0.0738	0.0738	0.059	0.059	0.0723	0.0723
D Factor (3)	0.1653	0.8347	0.6398	0.3602	0.1653	0.8347	0.6398	0.3602	0.1989	0.8011	0.6955	0.3045
Truck Factor (4)	0.9186	0.9186	0.9186	0.9186	0.9186	0.9186	0.9186	0.9186	0.8977	0.8977	0.8977	0.8977
Peak Hour Volume	1514.87	7649.51	6990.58	3935.61	1414.62	7143.29	6527.97	3675.17	1568.69	6318.13	6721.8	2942.9
Volume to Capacity	0.16116	0.81378	0.74368	0.41868	0.15049	0.75992	0.69446	0.39098	0.16688	0.67214	0.71508	0.31307
LOS	A	D	C	A	A	C	C	A	A	C	C	A
Cumulative Pk Hr Vol	337	340	472	542	201	253	351	321	736	974	1340	906
Existing+Cumulative												
Peak Hour Volume	1851.87	7989.51	7462.58	4477.61	1615.62	7396.29	6878.97	3996.17	2304.69	7292.13	8061.8	3848.9
Volume to Capacity	0.19701	0.84995	0.79389	0.47634	0.17187	0.78684	0.7318	0.42512	0.24518	0.77576	0.85764	0.40946
LOS	A	D	C	B	A	C	C	B	A	C	D	A

Notes: (1) Capacity of 2,350 passenger cars per hour per lane (pcphpl) from Caltrans' Guide for the Preparation of Traffic Impact Studies, Dec 2002. (2) Latest K factor from Caltrans (based on 2005 data), which is the percentage of Annual Average Daily Traffic (AADT) in both directions. (3) Latest D factor from Caltrans (based on 2005 data), which when multiplied by K and ADT will provide peak hour volume. (4) Latest truck factor from Caltrans (based on 2000 data).

TABLE 2.3-12
EXISTING + CUMULATIVE + PROJECT INTERSECTION LOS

Intersection and (Analysis)[1]	Movement	Peak Hour	Existing		Existing + Cumulative + Project			Cumulative Impact?[5]
			Delay[2]	LOS[3]	Delay[2]	LOS[3]	Delta[4]	
1) SR-76 (Pala Rd) at	SB LR	AM	86.1	**F**	>500	**F**	>2.0	**Yes**
Via Monserate (U)	SB LR	PM	91.4	**F**	>500	**F**	>2.0	**Yes**
	All	AM	5.0	A	>500	**F**	>2.0	**Yes**
	All	PM	2.9	A	>500	**F**	>2.0	**Yes**
2) SR-76 (Pala Rd) at	All	AM	12.9	B	59.1	D	46.2	No
Gird Rd (S)	All	PM	12.6	B	118.0	**F**	105.4	**Yes**
3) SR-76 (Pala Rd) at	SB LR	AM	22.6	C	40.4	**E**	17.8	**Yes**
Sage Rd (U)	SB LR	PM	33.0	D	39.3	**E**	6.3	**Yes**
	All	AM	0.2	A	>500	**F**	>2.0	**Yes**
	All	PM	0.4	A	>500	**F**	>2.0	**Yes**
4) SR-76 (Pala Rd) at	All	AM	29.7	C	268.7	**F**	239.0	**Yes**
Old Hwy 395 (S)	All	PM	30.2	C	266.1	**F**	235.9	**Yes**
6) SR-76 (Pala Rd) at	All	AM	27.5	C	107.0	**F**	79.5	**Yes**
I-15 SB Ramps (S)	All	PM	26.4	C	140.1	**F**	113.7	**Yes**
7) SR-76 (Pala Rd) at	All	AM	22.4	C	86.6	**E**	64.2	**Yes**
I-15 NB Ramps (S)	All	PM	43.6	D	121.2	**F**	77.6	**Yes**
8) SR-76 (Pala Rd) at	NB LTR	AM	12.2	B	>500	**F**	>2.0	**Yes**
Pankey Road (U)	NB LTR	PM	14.6	B	>500	**F**	>2.0	**Yes**
	SB LTR	AM	0.0	A	>500	**F**	>2.0	**Yes**
	SB LTR	PM	0.0	A	>500	**F**	>2.0	**Yes**
9) SR-76 (Pala Rd) at	Future	AM	DNE	NA	21.0	B	NA	No
Horse Ranch Creek Rd (U)	Intersection	PM	DNE	NA	22.4	B	NA	No
10) SR-76 (Pala Rd) at	SB LR	AM	10.7	B	211.4	**F**	200.7	**Yes**
Rice Canyon Road (U)	SB LR	PM	12.9	B	>500	**F**	>2.0	**Yes**
11) SR-76 (Pala Rd) at	NB LR	AM	11.9	B	86.2	**F**	74.3	**Yes**
Couser Canyon Road (U)	NB LR	PM	14.2	B	427.4	**F**	413.2	**Yes**
12) Old Highway 395 at	EB LTR	AM	11.0	B	>500	**F**	>2.0	**Yes**
Pala Mesa Dr (U)	EB LTR	PM	11.1	B	>500	**F**	>2.0	**Yes**
14) Old Highway 395 at	WB LTR	AM	10.8	B	>500	**F**	>2.0	**Yes**
Stewart Canyon Road (U)	WB LTR	PM	11.9	B	>500	**F**	>2.0	**Yes**
15) Old Highway 395 at	EB LR	AM	18.4	C	>500	**F**	>2.0	**Yes**
Reche Road (U)	EB LR	PM	35.9	**E**	>500	**F**	>2.0	**Yes**
	All	AM	10.6	B	>500	**F**	>2.0	**Yes**
	All	PM	17.6	B	>500	**F**	>2.0	**Yes**
19) Mission Road at	SB L	AM	12.2	B	54.8	D	42.6	No
Old Highway 395 (S)	SB L	PM	23.0	C	113.0	**F**	90.0	**Yes**
20) Mission Road at	SB LTR	AM	20.6	C	75.6	**E**	55.0	**Yes**
I-15 SB Ramps (S)	SB LTR	PM	17.8	B	87.5	**E**	69.7	**Yes**
21) Mission Road at	All	AM	17.2	B	31.8	C	14.6	No
I-15 NB Ramps (S)	All	PM	37.5	D	95.8	**F**	58.3	**Yes**
22) Stewart Canyon Rd at	EB LR	AM	8.7	A	11.1	B	NA	No
HRCR/Pankey Road (U)	EB LR	PM	8.7	A	13.7	B	NA	No
23) Horse Ranch Crk Rd at	WB LR	AM	DNE	NA	17.8	B	NA	No
Baltimore Oriole (S)	WB LR	PM	DNE	NA	17.7	B	NA	No
24) Horse Ranch Crk Rd at	All	AM	DNE	NA	21.4	C	NA	No
Longspur Rd (S)	All	PM	DNE	NA	24.2	C	NA	No
25) Horse Ranch Crk Rd at	WB LR	AM	DNE	NA	17.7	B	NA	No
Harvest Glen Ln (S)	WB LR	PM	DNE	NA	26.0	B	NA	No
26) Horse Ranch Crk Rd at	WB LR	AM	DNE	NA	17.6	A	NA	No
Pardee South Loop (S)	WB LR	PM	DNE	NA	24.6	B	NA	No
27) Horse Ranch Crk Rd at	All-Way	AM	DNE	NA	15.2	A	NA	No
School/Park Access (U)	All-Way	PM	DNE	NA	18.1	A	NA	No
28) Horse Ranch Crk Rd	EB LR	AM	DNE	NA	7.8	A	NA	No
at Street R (S)	EB LR	PM	DNE	NA	12.2	B	NA	No
29) Pankey/Pala Mesa Dr	WB LR	AM	DNE	NA	24.8	C	NA	No
at Street R (S)	WB LR	PM	DNE	NA	43.3	D	NA	No
31) SR-76 (Mission Ave) at	All	AM	60.9	**E**	282.1	**F**	221.2	**Yes**
E. Vista Way (S)	All	PM	48.4	D	261.1	**F**	212.7	**Yes**
32) SR-76 (Mission Ave) at	All	AM	61.7	**E**	317.1	**F**	255.4	**Yes**
North River Rd (S)	All	PM	29.7	C	267.3	**F**	237.6	**Yes**
33) SR-76 (Mission Ave) at	All	AM	53.8	D	275.6	**F**	221.8	**Yes**
Olive Hill Rd (S)	All	PM	52.9	D	184.1	**F**	131.2	**Yes**
34) SR-76 (Mission Ave) at	All	AM	18.9	B	61.4	**E**	42.5	**Yes**
S. Mission Rd (S)	All	PM	21.5	C	88.0	**F**	66.5	**Yes**
37) SR-76 (Pala Rd.) at	All	AM	29.3	C	32.4	C	3.1	No
Pala Mission Rd. (S)	All	PM	32.4	C	42.6	D	10.2	No

Notes: 1) Intersection Analysis - (S) Signalized, (U) Unsignalized 2) Delay - HCM Control Delay in seconds. 3) LOS: Level of Service. 4) Delta is the increase in delay from cumulative and project traffic. 5) Cumulative impact due to project traffic and other cumulative traffic exceeding the allowable delta (yes or no). DNE: Does Not Exist. NA: Not Applicable

TABLE 2.3-13A
EXISTING + CUMULATIVE + PROJECT SEGMENT ADT VOLUMES AND LOS

Segment	Classification (as proposed)	Existing				Cumulative	Project	Existing + Cumulative + Project				
		Daily Volume	LOS E Capacity	V/C	LOS	Daily Volumes	Daily Volumes	Daily Volume	LOS E Capacity	V/C	LOS	Cumulative Impact?
Old Highway 395												
East Mission Road to Reche Road	Collector	5,155	16,200	0.32	C	13,609	1,136	19,900	16,200	1.23	**F**	**Yes**
Reche Road to Stewart Canyon Road	Collector	5,646	16,200	0.35	C	16,215	1,439	23,300	16,200	1.44	**F**	**Yes**
Pala Mesa Drive to SR-76 (Pala Road)	Collector	6,405	16,200	0.40	C	11,119	76	17,600	16,200	1.09	**F**	**Yes**
Stewart Canyon Road												
Old Hwy 395 to Horse Ranch Creek Rd	Collector	590	16,200	0.04	A	6,034	1,515	8,138	16,200	0.50	D	No
Pankey Road												
Street R/Pankey Place to SR-76 (Pala Rd)	Light Collector	0	34,200	0.00	A	8,244	379	8,622	34,200	0.25	D	No
Horse Ranch Creek Road												
Stewart Canyon Rd to Baltimore Oriole (#23)	Light Collector	40	16,200	0.00	A	5,705	1,515	7,260	16,200	0.45	D	No
Baltimore Oriole (#23) to Longspur Rd (#24)	(Boulevard 4.2A)	0	27,000	0.00	Un	9,052	2,068	11,119	27,000	0.41	Un	No
Longspur Rd (#24) to Harvest Glen Ln (#25)	(Boulevard 4.2A)	0	27,000	0.00	Un	13,363	2,777	16,140	27,000	0.60	Un	No
Harvest Glen Ln (#25) to Intersection (#26)	(Boulevard 4.2A)	0	27,000	0.00	Un	16,955	4,040	20,995	27,000	0.78	Un	No
Intersection (#26) to Park/School (#27)	(Boulevard 4.2A)	0	27,000	0.00	Un	16,824	4,946	21,770	27,000	0.81	Un	No
Park/Sch (#27) to Street R/Pankey Pl (#28)	(Boulevard 4.2A)	0	27,000	0.00	Un	16,972	4,946	21,918	27,000	0.81	Un	No
Street R/Pankey Pl (#28) to SR-76 (Pala Rd)	(Boulevard 4.2A)	0	27,000	0.00	Un	9,968	2,575	12,544	27,000	0.46	Un	No
Pala Mesa Drive												
Old Highway 395 to Street R/Pankey Pl	Light Collector	0	16,200	0.00	A	6,178	833	7,011	16,200	0.43	C	No
Street R/Pankey Place												
Pala Mesa/Pankey to Horse Ranch Creek Rd	Light Collector	0	16,200	0.00	0	8,398	1,969	10,367	16,200	0.64	D	No

Notes: Existing Classification Sept 2005 Circulation Element. Proposed classification = GP Update Circulation Element.
Un = Under Capacity. Daily volume is a 24 hour volume. LOS: Level of Service. V/C: Volume to Capacity ratio.

TABLE 2.3-13B
EXISTING + CUMULATIVE + PROJECT STATE ROUTE VOLUMES AND LOS (AM/PM)

State Route 76	Lanes in	E	AM (Eastbound)				C+P	E+C+P			v/c	Cumulative	E	AM (Westbound)				C+P	E+C+P			v/c	Cumulative
Study Limits	each dir	Vol	Dir	Cap	v/c	LOS	Vol	Vol	v/c	LOS	Delta	Impact?	Vol	Dir	Cap	v/c	LOS	Vol	Vol	v/c	Sig	Delta	Impact?
E. Vista Way to North River Rd	1	718	EB	950	0.76	D	469	1187	1.25	**F**	0.49	**Yes**	1040	WB	950	1.09	**F**	944	1984	2.09	**F**	0.99	**Yes**
North River Rd to Olive Hill Rd	1	852	EB	950	0.90	**E**	539	1391	1.46	**F**	0.57	**Yes**	1200	WB	950	1.26	**F**	1221	2421	2.55	**F**	1.29	**Yes**
Olive Hill Rd to S Mission Rd	1	1031	EB	950	1.09	**F**	467	1498	1.58	**F**	0.49	**Yes**	1245	WB	950	1.31	**F**	1322	2567	2.70	**F**	1.39	**Yes**
S Mission Rd to Via Monserate	1	745	EB	950	0.78	D	347	1092	1.15	**F**	0.37	**Yes**	901	WB	950	0.95	**E**	832	1733	1.82	**F**	0.88	**Yes**
Via Monserate to Gird Rd	1	808	EB	950	0.85	D	332	1140	1.20	**F**	0.35	**Yes**	895	WB	950	0.94	**E**	901	1796	1.89	**F**	0.95	**Yes**
Gird Rd to Sage Rd	1	740	EB	950	0.78	D	391	1131	1.19	**F**	0.41	**Yes**	542	WB	950	0.57	C	797	1339	1.41	**F**	0.84	**Yes**
Sage Rd to Old Hwy 395	1	760	EB	950	0.80	D	458	1218	1.28	**F**	0.48	**Yes**	534	WB	950	0.56	C	827	1361	1.43	**F**	0.87	**Yes**
Old Hwy 395 to I-15 SB Ramps	2	1507	EB	2050	0.74	D	93	1600	0.78	D	0.05	No	665	WB	2028	0.33	B	600	1265	0.62	C	0.30	No
I-15 SB Ramps to I-15 NB Ramps	1	844	EB	950	0.89	**E**	178	1022	1.08	**F**	0.19	**Yes**	539	WB	950	0.57	C	455	994	1.05	**F**	0.48	**Yes**
I-15 NB Ramps to Pankey Rd	2	559	EB	3100	0.18	A	283	842	0.27	A	0.09	No	606	WB	3030	0.20	A	439	1045	0.34	B	0.14	No
Pankey Rd to Horse Ranch Creek Rd	2	589	EB	1806	0.33	B	15	604	0.33	B	0.01	No	540	WB	2028	0.27	A	644	1184	0.58	C	0.32	No
Horse Ranch Creek Rd to Rice Cyn	1	588	EB	950	0.62	C	16	604	0.64	C	0.02	No	539	WB	950	0.57	C	645	1184	1.25	**F**	0.68	**Yes**
Rice Cyn to Couser Cyn	1	589	EB	950	0.62	C	1135	1724	1.81	**F**	1.19	**Yes**	540	WB	950	0.57	C	300	840	0.88	**E**	0.32	**Yes**
Couser Cyn to Pala Mission Rd	1	634	EB	950	0.67	C	223	857	0.90	**E**	0.23	**Yes**	357	WB	950	0.38	B	321	678	0.71	D	0.34	No

Source: SANDAG Year 2030 Cumulative Map. Notes: Dir = Direction. Vol = Volume. Cap = Capacity. v/c = volume to capacity ratio. LOS = Level of Service. E: Existing. C: Cumulative. P: Project.

State Route 76	Lanes in	E	PM (Eastbound)				C+P	E+C+P			v/c	Cumulative	E	PM (Westbound)				C+P	E+C+P			v/c	Cumulative
Study Limits	each dir	Vol	Dir	Cap	v/c	LOS	Vol	Vol	v/c	LOS	Delta	Impact?	Vol	Dir	Cap	v/c	LOS	Vol	Vol	v/c	Sig	Delta	Impact?
E. Vista Way to North River Rd	1	1107	EB	950	1.17	**F**	952	2059	2.17	**F**	1.00	**Yes**	652	WB	950	0.69	C	767	1419	1.49	**F**	0.81	**Yes**
North River Rd to Olive Hill Rd	1	1176	EB	950	1.24	**F**	1417	2593	2.73	**F**	1.49	**Yes**	781	WB	950	0.82	D	830	1611	1.70	**F**	0.87	**Yes**
Olive Hill Rd to S Mission Rd	1	1457	EB	950	1.53	**F**	1119	2576	2.71	**F**	1.18	**Yes**	1069	WB	950	1.13	**F**	782	1851	1.95	**F**	0.82	**Yes**
S Mission Rd to Via Monserate	1	1064	EB	950	1.12	**F**	1209	2273	2.39	**F**	1.27	**Yes**	618	WB	950	0.65	C	883	1501	1.58	**F**	0.93	**Yes**
Via Monserate to Gird Rd	1	1077	EB	950	1.13	**F**	1000	2077	2.19	**F**	1.05	**Yes**	786	WB	950	0.83	D	575	1361	1.43	**F**	0.61	**Yes**
Gird Rd to Sage Rd	1	645	EB	950	0.68	C	755	1400	1.47	**F**	0.79	**Yes**	742	WB	950	0.78	D	494	1236	1.30	**F**	0.52	**Yes**
Sage Rd to Old Hwy 395	1	638	EB	950	0.67	C	885	1523	1.60	**F**	0.93	**Yes**	768	WB	950	0.81	D	680	1448	1.52	**F**	0.72	**Yes**
Old Hwy 395 to I-15 SB Ramps	2	816	EB	2050	0.40	B	670	1486	0.72	D	0.33	No	1258	WB	2028	0.62	C	273	1531	0.75	D	0.13	No
I-15 SB Ramps to I-15 NB Ramps	1	718	EB	950	0.76	D	639	1357	1.43	**F**	0.67	**Yes**	1153	WB	950	1.21	**F**	132	1285	1.35	**F**	0.14	**Yes**
I-15 NB Ramps to Pankey Rd	2	696	EB	3100	0.22	A	753	1449	0.47	B	0.24	No	820	WB	3030	0.27	A	242	1062	0.35	B	0.08	No
Pankey Rd to Horse Ranch Creek Rd	2	631	EB	1806	0.35	B	649	1280	0.71	C	0.36	No	897	WB	2028	0.44	B	460	1357	0.67	C	0.23	No
Horse Ranch Creek Rd to Rice Cyn	1	631	EB	950	0.66	C	649	1280	1.35	**F**	0.68	**Yes**	897	WB	950	0.94	**E**	460	1357	1.43	**F**	0.48	**Yes**
Rice Cyn to Couser Cyn	1	526	EB	950	0.55	C	506	1032	1.09	**F**	0.53	**Yes**	930	WB	950	0.98	**E**	413	1343	1.41	**F**	0.43	**Yes**
Couser Cyn to Pala Mission Rd	1	434	EB	950	0.46	**B**	414	848	0.89	**E**	0.44	**Yes**	950	WB	950	1.00	**F**	301	1251	1.32	**F**	0.32	**Yes**

Source: SANDAG Year 2030 Cumulative Map. Notes: Dir = Direction. Vol = Volume. Cap = Capacity. v/c = volume to capacity ratio. LOS = Level of Service. E: Existing. C: Cumulative. P: Project.

TABLE 2.3-14
EXISTING + CUMULATIVE + PROJECT FREEWAY VOLUMES AND LOS

Freeway	**I-15**				**I-15**				**I-15**			
Segment	Rainbow Valley Blvd to Mission Rd				Mission Rd to SR-76 (Pala Rd)				SR-76 to Escondido Hwy (Old 395)			
Existing (Year 2006)												
ADT	136,000				127,000				120,000			
Peak Hour	A M		P M		A M		P M		A M		P M	
Direction	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
Number of Lanes	4	4	4	4	4	4	4	4	4	4	4	4
Capacity (1)	9,400	9,400	9,400	9,400	9,400	9,400	9,400	9,400	9,400	9,400	9,400	9,400
K Factor (2)	0.0619	0.0619	0.0738	0.0738	0.0619	0.0619	0.0738	0.0738	0.0590	0.0590	0.0723	0.0723
D Factor (3)	0.1653	0.8347	0.6398	0.3602	0.1653	0.8347	0.6398	0.3602	0.1989	0.8011	0.6955	0.3045
Truck Factor (4)	0.9186	0.9186	0.9186	0.9186	0.9186	0.9186	0.9186	0.9186	0.8977	0.8977	0.8977	0.8977
Peak Hour Volume	1,515	7,650	6,991	3,936	1,415	7,143	6,528	3,675	1,569	6,318	6,722	2,943
Volume to Capacity	0.161	0.814	0.744	0.419	0.150	0.760	0.694	0.391	0.167	0.672	0.715	0.313
LOS	A	D	C	A	A	C	C	A	A	C	C	A
Project Pk Hr Vol	68	23	34	81	10	3	4	11	20	54	63	27
Existing + Project												
Peak Hour Volume	1,583	7,673	7,025	4,017	1,425	7,146	6,532	3,686	1,589	6,372	6,785	2,970
Volume to Capacity	0.168	0.816	0.747	0.427	0.152	0.760	0.695	0.392	0.169	0.678	0.722	0.316
LOS	A	D	C	B	A	C	C	A	A	C	C	A
Increase in V/C	0.007	0.002	0.004	0.009	0.001	0.000	0.000	0.001	0.002	0.006	0.007	0.003
County Impact?	No	No	No	No	No	No	No	No	No	No	No	No
CMP Impact?	No	No	No	No	No	No	No	No	No	No	No	No
Cumulative Pk Hr Vol	337	340	472	542	201	253	351	321	736	974	1340	906
Existing+Cumulative												
Peak Hour Volume	1,852	7,990	7,463	4,478	1,616	7,396	6,879	3,996	2,305	7,292	8,062	3,849
Volume to Capacity	0.197	0.850	0.794	0.476	0.172	0.787	0.732	0.425	0.245	0.776	0.858	0.409
LOS	A	D	C	B	A	C	C	B	A	C	D	A
Existing+Cumulative+Project												
Peak Hour Volume	1,920	8,013	7,497	4,559	1,626	7,399	6,883	4,007	2,325	7,346	8,125	3,876
Volume to Capacity	0.204	0.852	0.798	0.485	0.173	0.787	0.732	0.426	0.247	0.782	0.864	0.412
LOS	A	D	C	B	A	C	C	B	A	C	D	A
Increase in V/C	0.007	0.002	0.004	0.009	0.001	0.000	0.000	0.001	0.002	0.006	0.007	0.003
Cumulative Impact?	No	No	No	No	No	No	No	No	No	No	No	No

Notes: (1) Capacity of 2,350 passenger cars per hour per lane (pcphpl) from Caltrans' Guide for the Preparation of Traffic Impact Studies, Dec 2002. (2) Latest K factor from Caltrans (based on 2005 data), which is the percentage of Annual Average Daily Traffic (AADT) in both directions. (3) Latest D factor from Caltrans (based on 2005 data), which when multiplied by K and ADT will provide peak hour volume. (4) Latest truck factor from Caltrans (based on 2000 data). CMP: Congestion Management Program impact.

TABLE 2.3-15
HORIZON YEAR (2030) INTERSECTION LEVEL OF SERVICE

Intersection and (Analysis)[1]	Movement	Peak Hour	Horizon Year (2030) Delay[2]	LOS[3]
1) SR-76 (Pala Rd) at	SB R	AM	24.7	C
Via Monserate (U)	SB R	PM	19.4	C
2) SR-76 (Pala Rd) at	All	AM	12.4	B
Gird Rd (S)	All	PM	12.9	B
3) SR-76 (Pala Rd) at	SB R	AM	17.2	C
Sage Rd (U)	SB R	PM	17.7	C
4) SR-76 (Pala Rd) at	All	AM	47.8	D
Old Hwy 395 (S)	All	PM	44.8	D
6) SR-76 (Pala Rd) at	All	AM	33.7	C
I-15 SB Ramps (S)	All	PM	33.8	C
7) SR-76 (Pala Rd) at	All	AM	40.8	D
I-15 NB Ramps (S)	All	PM	40.7	D
8) SR-76 (Pala Rd) at	All	AM	25.2	C
Pankey Road (S)	All	PM	42.1	D
9) SR-76 (Pala Rd) at	All	AM	20.0	B
Horse Ranch Creek Rd (S)	All	PM	19.7	B
12) Old Highway 395 at	All	AM	32.5	C
Pala Mesa Dr (S)	All	PM	46.6	D
14) Old Highway 395 at	All	AM	22.3	C
Stewart Canyon Road (S)	All	PM	30.1	C
15) Old Highway 395 at	All	AM	22.8	C
Reche Road (S)	All	PM	48.2	D
19) Mission Road at	All	AM	23.6	C
Old Highway 395 (S)	All	PM	33.2	C
20) Mission Road at	All	AM	35.7	D
I-15 SB Ramps (S)	All	PM	21.6	C
21) Mission Road at	All	AM	22.0	C
I-15 NB Ramps (S)	All	PM	29.7	C
22) Stewart Canyon Rd at	EB LR	AM	11.2	B
HRCR/Pankey Road (U)	EB LR	PM	13.0	B
23) Horse Ranch Crk Rd at	All	AM	17.3	B
Baltimore Oriole (S)	All	PM	19.0	B
24) Horse Ranch Crk Rd at	All	AM	23.0	C
Longspur Rd (S)	All	PM	24.0	C
25) Horse Ranch Crk Rd at	All	AM	19.9	B
Harvest Glen Ln (S)	All	PM	22.5	C
26) Horse Ranch Crk Rd at	All	AM	13.1	B
Pardee South Loop (S)	All	PM	13.6	B
27) Horse Ranch Crk Rd at	WB R	AM	14.8	B
School/Park Access (U)	WB R	PM	15.6	C
28) Horse Ranch Crk Rd	All	AM	11.4	B
at Street R (S)	All	PM	12.8	B
29) Pankey/Pala Mesa Dr	All	AM	26.4	C
at Street R (S)	All	PM	41.2	D

Notes: 1) Intersection Analysis - (S) Signalized, (U) Unsignalized 2) Delay - HCM Control Delay in seconds. 3) LOS: Level of Service.

TABLE 2.3-16A
HORIZON YEAR (2030) SEGMENT ADT VOLUMES AND LOS

Segment	Existing Classification (proposed)	Horizon Year (2030) Daily Volume	LOS E Capacity	V/C	LOS
Old Highway 395					
East Mission Road to Reche Road	Collector	20,764	34,200	0.61	B
Reche Road to Stewart Canyon Road	Collector	23,761	34,200	0.69	C
Pala Mesa Drive to SR-76 (Pala Road)	Collector	21,224	34,200	0.62	B
Stewart Canyon Road					
Old Hwy 395 to Horse Ranch Creek Rd	Collector	7,285	34,200	0.21	A
Pankey Road					
Street R/Pankey Place to SR-76 (Pala Rd)	Light Collector	8,521	34,200	0.25	A
Horse Ranch Creek Road					
Stewart Canyon Rd to Baltimore Oriole (#23)	Light Collector	6,385	16,200	0.39	C
Baltimore Oriole (#23) to Longspur Rd (#24)	(Boulevard 4.2A)	9,333	27,000	0.35	Un
Longspur Rd (#24) to Harvest Glen Ln (#25)	(Boulevard 4.2A)	13,223	27,000	0.49	Un
Harvest Glen Ln (#25) to Intersection (#26)	(Boulevard 4.2A)	16,760	27,000	0.62	Un
Intersection (#26) to Park/School (#27)	(Boulevard 4.2A)	17,654	27,000	0.65	Un
Park/Sch (#27) to Street R/Pankey Pl (#28)	(Boulevard 4.2A)	17,854	27,000	0.66	Un
Street R/Pankey Pl (#28) to SR-76 (Pala Rd)	(Boulevard 4.2A)	11,025	27,000	0.41	Un
Pala Mesa Drive					
Old Highway 395 to Street R/Pankey Pl	Light Collector	6,667	16,200	0.41	C
Street R/Pankey Place					
Pala Mesa/Pankey to Horse Ranch Creek Rd	Light Collector	8,331	16,200	0.51	D

Notes: Existing Classification Sept 2005 Circulation Element. Proposed classification = GP Update Circulation Element.
Un = Under Capacity. Daily volume is a 24 hour volume. LOS: Level of Service. V/C: Volume to Capacity ratio.

TABLE 2.3-16B
HORIZON YEAR (2030) STATE ROUTE VOLUMES AND LOS
(LIMITS BASED ON 50 PEAK HOUR TRIPS)

State Route 76	Lanes in	2030	AM (Eastbound)				2030	AM (Westbound)				2030	PM (Eastbound)				2030	PM (Westbound)			
Study Limits	each dir	Vol	Dir	Cap	v/c	LOS	Vol	Dir	Cap	v/c	LOS	Vol	Dir	Cap	v/c	LOS	Vol	Dir	Cap	v/c	LOS
Via Monserate to Gird Rd	2	1124	EB	3300	0.34	B	1768	WB	3162	0.56	C	2022	EB	2912	0.69	C	1337	WB	3300	0.41	B
Gird Rd to Sage Rd	2	1115	EB	3300	0.34	B	1613	WB	2912	0.55	C	1623	EB	3300	0.49	B	1212	WB	2912	0.42	B
Sage Rd to Old Hwy 395	2	1202	EB	1904	0.63	C	1603	WB	3300	0.49	B	1620	EB	1904	0.85	D	1424	WB	3300	0.43	B
Old Hwy 395 to I-15 SB Ramps	2	1339	EB	3030	0.44	B	1251	WB	2028	0.62	C	1470	EB	3030	0.49	B	1524	WB	2028	0.75	D
I-15 SB Ramps to I-15 NB Ramps	2	1000	EB	3030	0.33	B	844	WB	3030	0.28	A	1278	EB	3030	0.42	B	1210	WB	3030	0.40	B
I-15 NB Ramps to Pankey Rd	2	775	EB	3100	0.25	A	841	WB	3030	0.28	A	1211	EB	3100	0.39	B	960	WB	3030	0.32	B
Pankey Rd to Horse Ranch Creek Rd	2	702	EB	1806	0.39	B	1000	WB	1956	0.51	C	1066	EB	1806	0.59	C	1265	WB	2028	0.62	C

Source: SANDAG, higher volumes used btw Series 10 (2030) Cumulative Map and Series 11 (2030) coverage. Notes: Dir = Direction. Vol = Volume. Cap = Capacity.
Study limits based on where 50 peak hour trips will travel, which does not extend west of Via Monserate as shown in Figure 12b (intersection #1).

TABLE 2.3-17
HORIZON YEAR (2030) FREEWAY VOLUMES AND LOS

Freeway Segment	**I-15**				**I-15**				**I-15**			
	Rainbow Valley Blvd to Mission Rd				Mission Rd to SR-76 (Pala Rd)				SR-76 to Escondido Hwy (Old 395)			
SANDAG (Horizon Year)												
ADT	275,000				251,000				231,000			
Peak Hour	A M		P M		A M		P M		A M		P M	
Direction	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
Number of Lanes	4	4	4	4	4	4	4	4	4	4	4	4
Capacity (1)	9,400	9,400	9,400	9,400	9,400	9,400	9,400	9,400	9,400	9,400	9,400	9,400
K Factor (2)	0.0619	0.0619	0.0738	0.0738	0.0619	0.0619	0.0738	0.0738	0.0590	0.0590	0.0723	0.0723
D Factor (3)	0.5064	0.4936	0.5064	0.4936	0.5075	0.4925	0.5075	0.4925	0.4917	0.5083	0.4917	0.5083
Truck Factor (4)	0.9186	0.9186	0.9186	0.9186	0.9186	0.9186	0.9186	0.9186	0.8977	0.8977	0.8977	0.8977
Peak Hour Volume	9,384	9,147	11,188	10,905	8,584	8,330	10,234	9,931	7,465	7,717	9,148	9,457
Volume to Capacity	1.00	0.97	1.19	1.16	0.91	0.89	1.09	1.06	0.79	0.82	0.97	1.01
LOS	**F**	**E**	**F**	**F**	D	D	**F**	**F**	C	D	**E**	**F**

Notes: (1) Capacity of 2,350 passenger cars per hour per lane from Caltrans' Guide for the Preparation of Traffic Impact Studies, Dec 2002. (2) Latest K factor from Caltrans (based on 2005 data), which is the percentage of Annual Average Daily Traffic (AADT) in both directions. (3) D factor from SANDAG Series 11 split for year 2030, which when multiplied by K and ADT will provide peak hour volume. (4) Latest truck factor from Caltrans (based on 2000 data).

TABLE 2.3-18
HORIZON YEAR (2030) + PROJECT INTERSECTION LOS

Intersection & (Analysis)[1]	Move-ment	Peak Hour	Horizon Year (2030) Delay[2]	Horizon Year (2030) LOS[3]	Horizon Year (2030) + Project Delay[2]	Horizon Year (2030) + Project LOS[3]	Delta[4]	CM Vol[5]	County Sig[6]	CMP Sig[7]
1) SR-76 (Pala Rd) at	SB R	AM	24.7	C	25.3	D	0.6	0	No	No
Via Monserate (U)	SB R	PM	19.4	C	19.7	C	0.3	0	No	No
2) SR-76 (Pala Rd) at	All	AM	12.4	B	12.5	B	0.1	NA	No	No
Gird Rd (S)	All	PM	12.9	B	13.0	B	0.1	NA	No	No
3) SR-76 (Pala Rd) at	SB R	AM	17.2	C	17.6	C	0.4	0	No	No
Sage Rd (U)	SB R	PM	17.7	C	17.9	C	0.2	0	No	No
4) SR-76 (Pala Rd) at	All	AM	47.8	D	51.0	D	3.2	NA	No	No
Old Hwy 395 (S)	All	PM	44.8	D	47.8	D	3.0	NA	No	No
6) SR-76 (Pala Rd) at	All	AM	33.7	C	34.0	C	0.3	NA	No	No
I-15 SB Ramps (S)	All	PM	33.8	C	34.1	C	0.3	NA	No	No
7) SR-76 (Pala Rd) at	All	AM	40.8	D	41.1	D	0.3	NA	No	No
I-15 NB Ramps (S)	All	PM	40.7	D	41.3	D	0.6	NA	No	No
8) SR-76 (Pala Rd) at	All	AM	25.2	C	27.8	C	2.6	NA	No	No
Pankey Road (S)	All	PM	42.1	D	45.4	D	3.3	NA	No	No
9) SR-76 (Pala Rd) at	All	AM	20.0	B	21.8	C	1.8	NA	No	No
Horse Ranch Creek Rd (S)	All	PM	19.7	B	22.9	C	3.2	NA	No	No
12) Old Highway 395 at	All	AM	32.5	C	34.3	C	1.8	NA	No	No
Pala Mesa Dr (S)	All	PM	46.6	D	51.5	D	4.9	NA	No	No
14) Old Highway 395 at	All	AM	22.3	C	22.8	C	0.5	NA	No	No
Stewart Canyon Road (S)	All	PM	30.1	C	40.4	D	10.3	NA	No	No
15) Old Highway 395 at	All	AM	22.8	C	23.3	C	0.5	NA	No	No
Reche Road (S)	All	PM	48.2	D	50.9	D	2.7	NA	No	No
19) Mission Road at	All	AM	23.6	C	27.4	C	3.8	NA	No	No
Old Highway 395 (S)	All	PM	33.2	C	37.8	D	4.6	NA	No	No
20) Mission Road at	All	AM	35.7	D	37.6	D	1.9	NA	No	No
I-15 SB Ramps (S)	All	PM	21.6	C	27.7	C	6.1	NA	No	No
21) Mission Road at	All	AM	22.0	C	23.1	C	1.1	NA	No	No
I-15 NB Ramps (S)	All	PM	29.7	C	31.0	C	1.3	NA	No	No
22) Stewart Canyon Rd at	EB LR	AM	11.2	B	12.2	B	1.0	43	No	No
HRCR/Pankey Road (U)	EB LR	PM	13.0	B	15.5	C	2.5	151	No	No
23) Horse Ranch Crk Rd at	All	AM	17.3	B	17.5	B	0.2	NA	No	No
Baltimore Oriole (S)	All	PM	19.0	B	19.6	B	0.6	NA	No	No
24) Horse Ranch Crk Rd at	All	AM	23.0	C	23.6	C	0.6	NA	No	No
Longspur Rd (S)	All	PM	24.0	C	24.9	C	0.9	NA	No	No
25) Horse Ranch Crk Rd at	All	AM	19.9	B	22.2	C	2.3	NA	No	No
Harvest Glen Ln (S)	All	PM	22.5	C	30.2	C	7.7	NA	No	No
26) Horse Ranch Crk Rd at	All	AM	13.1	B	18.9	B	5.8	NA	No	No
Pardee South Loop (S)	All	PM	13.6	B	27.3	C	13.7	NA	No	No
27) Horse Ranch Crk Rd at	WB R	AM	14.8	B	15.6	C	0.8	144	No	No
School/Park Access (U)	WB R	PM	15.6	C	18.7	C	3.1	62	No	No
28) Horse Ranch Crk Rd	All	AM	11.4	B	11.8	B	0.4	NA	No	No
at Street R (S)	All	PM	12.8	B	15.7	B	2.9	NA	No	No
29) Pankey/Pala Mesa Dr	All	AM	26.4	C	27.0	C	0.6	NA	No	No
at Street R (S)	All	PM	41.2	D	48.0	D	6.8	NA	No	No

Notes: 1) Intersection Analysis - (S) Signalized, (U) Unsignalized 2) Delay - HCM Control Delay in seconds. 3) LOS: Level of Service. 4) Delta is the increase in delay from project. 5) CM Vol: Critical Movement Volume used to show project volumes on the critical movement. 6) County Sig: is the project have a calculated impact based on the critical volume (Yes or No). 7) CMP Sig: Congention Mangement Program significant impact based on CMP criteria (Yes or No). DNE: Does Not Exist. NA: Not Applicable.

TABLE 2.3-19A
HORIZON YEAR (2030) + PROJECT SEGMENT ADT VOLUMES AND LOS

Segment	Existing Classification (proposed)	Horizon Year (2030)				Project	Horizon Year (2030) + Project						
		Daily Volume	LOS E Capacity	V/C	LOS	Daily Volumes	Daily Volume	LOS E Capacity	V/C	LOS	Impact?	Change in V/C	CMP Impact?
Old Highway 395													
East Mission Road to Reche Road	Collector	20,764	34,200	0.61	B	1,136	21,900	34,200	0.64	B	No	0.03	No
Reche Road to Stewart Canyon Road	Collector	23,761	34,200	0.69	C	1,439	25,200	34,200	0.74	C	No	0.04	No
Pala Mesa Drive to SR-76 (Pala Road)	Collector	21,224	34,200	0.62	B	76	21,300	34,200	0.62	B	No	0.00	No
Stewart Canyon Road													
Old Hwy 395 to Horse Ranch Creek Rd	Collector	7,285	34,200	0.21	A	1,515	8,800	34,200	0.26	A	No	0.04	No
Pankey Road													
Street R/Pankey Place to SR-76 (Pala Rd)	Light Collector	8,521	34,200	0.25	A	379	8,900	34,200	0.26	A	No	0.01	No
Horse Ranch Creek Road													
Stewart Canyon Rd to Baltimore Oriole (#23)	Light Collector	6,385	16,200	0.39	C	1,515	7,900	16,200	0.49	D	No	0.09	No
Baltimore Oriole (#23) to Longspur Rd (#24)	(Boulevard 4.2A)	9,333	27,000	0.35	Un	2,068	11,400	27,000	0.42	Un	No	0.08	No
Longspur Rd (#24) to Harvest Glen Ln (#25)	(Boulevard 4.2A)	13,223	27,000	0.49	Un	2,777	16,000	27,000	0.59	Un	No	0.10	No
Harvest Glen Ln (#25) to Intersection (#26)	(Boulevard 4.2A)	16,760	27,000	0.62	Un	4,040	20,800	27,000	0.77	Un	No	0.15	No
Intersection (#26) to Park/School (#27)	(Boulevard 4.2A)	17,654	27,000	0.65	Un	4,946	22,600	27,000	0.84	Un	No	0.18	No
Park/Sch (#27) to Street R/Pankey Pl (#28)	(Boulevard 4.2A)	17,854	27,000	0.66	Un	4,946	22,800	27,000	0.84	Un	No	0.18	No
Street R/Pankey Pl (#28) to SR-76 (Pala Rd)	(Boulevard 4.2A)	11,025	27,000	0.41	Un	2,575	13,600	27,000	0.50	Un	No	0.10	No
Pala Mesa Drive													
Old Highway 395 to Street R/Pankey Pl	Light Collector	6,667	16,200	0.41	C	151	7,500	16,200	0.46	D	No	0.05	No
Street R/Pankey Place													
Pala Mesa/Pankey to Horse Ranch Creek Rd	Light Collector	8,331	16,200	0.51	D	1,969	10,300	16,200	0.64	D	No	0.12	No

Notes: (proposed GP Update classification). LOS: Level of Service. V/C: Volume to Capacity ratio. Daily volumes is a 24 hour volume.
Horse Ranch Creek Road LOS for proposed classification per GP Update is noted as "Un" as under capacity and "Ov" for over capacity.

TABLE 2.3-19B
HORIZON YEAR (2030) + PROJECT STATE ROUTE VOLUMES AND LOS (AM/PM)

State Route 76 Study Limits	Lanes in each dir	2030 Vol	AM (Eastbound) Dir	Cap	v/c	LOS	P Vol	2030+P Vol	v/c	LOS	v/c Delta	Impact?	2030 Vol	AM (Westbound) Dir	Cap	v/c	LOS	P Vol	2030+P Vol	v/c	LOS	v/c Delta	Impact?
Via Monserate to Gird Rd	2	1124	EB	3300	0.34	B	16	1140	0.35	B	0.00	No	1768	WB	3162	0.56	C	48	1816	0.57	C	0.02	No
Gird Rd to Sage Rd	2	1115	EB	3300	0.34	B	16	1131	0.34	B	0.00	No	1613	WB	3300	0.49	B	48	1661	0.50	B	0.01	No
Sage Rd to Old Hwy 395	2	1202	EB	1904	0.63	C	16	1218	0.64	C	0.01	No	1603	WB	3300	0.49	B	48	1651	0.50	B	0.01	No
Old Hwy 395 to I-15 SB Ramps	2	1339	EB	3030	0.44	B	4	1343	0.44	B	0.00	No	1251	WB	2028	0.62	C	14	1265	0.62	C	0.01	No
I-15 SB Ramps to I-15 NB Ramps	2	1000	EB	3030	0.33	B	22	1022	0.34	B	0.01	No	844	WB	3030	0.28	A	150	994	0.33	B	0.05	No
I-15 NB Ramps to Pankey Rd	2	775	EB	3100	0.25	A	67	842	0.27	A	0.02	No	841	WB	3030	0.28	A	204	1045	0.34	B	0.07	No
Pankey Rd to Horse Ranch Creek Rd	2	702	EB	1806	0.39	B	60	762	0.42	B	0.03	No	1000	WB	1956	0.51	C	184	1184	0.61	C	0.09	No

Source: SANDAG, higher volumes used btw Series 10 (2030) Cumulative Map and Series 11 (2030) coverage. Notes: Dir = Direction. Vol = Volume. Cap = Capacity.

State Route 76 Study Limits	Lanes in each dir	2030 Vol	PM (Eastbound) Dir	Cap	v/c	LOS	P Vol	2030+P Vol	v/c	LOS	v/c Delta	Impact?	2030 Vol	PM (Westbound) Dir	Cap	v/c	LOS	P Vol	2030+P Vol	v/c	LOS	v/c Delta	Impact?
Via Monserate to Gird Rd	2	2022	EB	2912	0.69	C	55	2077	0.71	D	0.02	No	1337	WB	3300	0.41	B	24	1361	0.41	B	0.01	No
Gird Rd to Sage Rd	2	1623	EB	3300	0.49	B	55	1678	0.51	B	0.02	No	1212	WB	2912	0.42	B	24	1236	0.42	B	0.01	No
Sage Rd to Old Hwy 395	2	1620	EB	2300	0.70	C	55	1675	0.73	D	0.02	No	1424	WB	3300	0.43	B	24	1448	0.44	B	0.01	No
Old Hwy 395 to I-15 SB Ramps	2	1470	EB	3030	0.49	B	16	1486	0.49	B	0.01	No	1524	WB	2028	0.75	D	7	1531	0.75	D	0.00	No
I-15 SB Ramps to I-15 NB Ramps	2	1278	EB	3030	0.42	B	79	1357	0.45	B	0.03	No	1210	WB	3030	0.40	B	75	1285	0.42	B	0.02	No
I-15 NB Ramps to Pankey Rd	2	1211	EB	3100	0.39	B	238	1449	0.47	B	0.08	No	960	WB	3030	0.32	B	102	1062	0.35	B	0.03	No
Pankey Rd to Horse Ranch Creek Rd	2	1066	EB	1806	0.59	C	214	1280	0.71	C	0.12	No	1265	WB	2028	0.62	C	92	1357	0.67	C	0.05	No

Source: SANDAG, higher volumes used btw Series 10 (2030) Cumulative Map and Series 11 (2030) coverage. Notes: Dir = Direction. Vol = Volume. Cap = Capacity.

TABLE 2.3-20
HORIZON YEAR (2030) + PROJECT FREEWAY VOLUMES AND LOS

Freeway Segment	**I-15**				**I-15**				**I-15**			
	Rainbow Valley Blvd to Mission Rd				Mission Rd to SR-76 (Pala Rd)				SR-76 to Escondido Hwy (Old 395)			
SANDAG (Horizon Year)												
ADT	275,000				251,000				231,000			
Peak Hour	A M		P M		A M		P M		A M		P M	
Direction	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
Number of Lanes	4	4	4	4	4	4	4	4	4	4	4	4
Capacity (1)	9,400	9,400	9,400	9,400	9,400	9,400	9,400	9,400	9,400	9,400	9,400	9,400
K Factor (2)	0.0619	0.0619	0.0738	0.0738	0.0619	0.0619	0.0738	0.0738	0.0590	0.0590	0.0723	0.0723
D Factor (3)	0.5064	0.4936	0.5064	0.4936	0.5075	0.4925	0.5075	0.4925	0.4917	0.5083	0.4917	0.5083
Truck Factor (4)	0.9186	0.9186	0.9186	0.9186	0.9186	0.9186	0.9186	0.9186	0.8977	0.8977	0.8977	0.8977
Peak Hour Volume	9,384	9,147	11,188	10,905	8,584	8,330	10,234	9,931	7,465	7,717	9,148	9,457
Volume to Capacity	1.00	0.97	1.19	1.16	0.91	0.89	1.09	1.06	0.79	0.82	0.97	1.01
LOS	**F**	**E**	**F**	**F**	D	D	**F**	**F**	C	D	**E**	**F**
Project Pk Hr Vol	68	23	34	136	10	3	4	11	20	54	63	27
SANDAG (Horizon Year + Project)												
Peak Hour Volume	9,452	9,170	11,222	11,041	8,594	8,333	10,238	9,942	7,485	7,771	9,211	9,484
Volume to Capacity	1.01	0.98	1.19	1.17	0.91	0.89	1.09	1.06	0.80	0.83	0.97	1.01
LOS	**F**	**E**	**F**	**F**	D	D	**F**	**F**	C	D	**E**	**F**
Increase in V/C	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00
County Impact?	No	No	No	No	No	No	No	No	No	No	No	No
CMP Impact?	No	No	No	No	No	No	No	No	No	No	No	No

Notes: (1) Capacity of 2,350 passenger cars per hour per lane from Caltrans' Guide for the Preparation of Traffic Impact Studies, Dec 2002. (2) Latest K factor from Caltrans (based on 2005 data), which is the percentage of Annual Average Daily Traffic (AADT) in both directions. (3) D factor from SANDAG Series 11 split for year 2030, which when multiplied by K and ADT will provide peak hour volume. (4) Latest truck factor from Caltrans (based on 2000 data). CMP: Congestion Management Program.

TABLE 2.3-21
IMPACT SUMMARY TABLE

Facility	Direct Impacts	Cumulative Impacts
Intersections	1) Old Hwy 395/Reche Road	1) SR-76/Via Monserate 2) SR-76/Gird Road 3) SR-76/Sage Road 4) SR-76/Old Hwy 395 5) SR-76/I-15 SB Ramp 6) SR-76/I-15 NB Ramp 7) SR-76/Pankey Road 8) SR-76/Rice Canyon Road 9) SR-76/Couser Canyon Road 10) Old Hwy 395/Pala Mesa Dr 11) Old Hwy 395/Stewart Canyon Road 12) Old Hwy 395/Reche Road 13) Mission Road at Old Hwy 395 14) Mission Road at I-15 SB Ramp 15) Mission Road at I-15 NB Ramp 16) SR-76/E Vista Way 17) SR-76/North River Road 18) SR-76/Olive Hill Road 19) SR-76/S Mission Road
Segments and State Routes	1) SR-76 (Via Monserate to Gird Road) 2) SR-76 (I-15 NB Ramp to I-15 SB Ramp)	1) Old Hwy 395 (E Mission Road to Reche Road) 2) Old Hwy 395 (Reche Road to Stewart Cyn) 3) Old Hwy 395 (Pala Mesa Dr to SR-76) 4) SR-76 (E Vista Way to North River Road) 5) SR-76 (North River Road to Olive Hill Road) 6) SR-76 (Olive Hill Road to S Mission Road) 7) SR-76 (S Mission Road to Via Monserate) 8) SR-76 (Via Monserate to Gird Road) 9) SR-76 (Gird Road to Sage Road) 10) SR-76 (Sage Road to Old Hwy 395) 11) SR-76 (I-15 SB Ramp to I-15 NB Ramp) 12) SR-76 (Horse Ranch Creek Road to Rice Cyn) 13) SR-76 (Rice Cyn to Couser Cyn Road) 14) SR-76 (Couser Cyn Road to Pala Mission Road)
Freeways	None	None
Ramps	None	None
Horse Ranch Creek Road Classification Change	Copy of a Modification to Road Standard Request is included in the Appendix	Copy of a Modification to Road Standard Request is included in the Appendix

TABLE 2.3-22
SUMMARY OF DIRECT AND CUMULATIVE IMPACTS, PROJECT FEATURES, AND OTHER IMPROVEMENTS

Impact, Project Feature, or Other Improvement	Proposed Mitigation	Responsible Party	Significance After Mitigation
Direct Impacts			
1) INTERSECTION: Old Highway 395 at Reche Road (#15)	Construct traffic signal with lane configuration as shown in the next Figure	First applicant in time to construct the identified improvement	Direct impact mitigated to below a level of significance
2) STATE ROUTE: 76 (Via Monserate to Gird Road)	Widen SR-76 from 2 to 4 lanes.	Caltrans SR-76 East Project	Direct impact mitigated to below a level of significance with Caltrans project(1)
3) STATE ROUTE: 76 (I-15 NB Ramp to I-15 SB Ramp)	Widen SR-76 from 2 to 4 lanes.	Caltrans SR-76 East Project	Direct impact mitigated to below a level of significance with Caltrans project(1)
Cumulative Impacts			
1) INTERSECTION: SR-76 at Via Monserate	Add lanes as shown in the next Figure	TIF(2)	Cumulative impact mitigated to below a level of significance
2) INTERSECTION: SR-76 at Gird Road	Add lanes as shown in the next Figure	TIF(2)	Cumulative impact mitigated to below a level of significance
3) INTERSECTION: SR-76 at Sage Road	Add lanes as shown in the next Figure	TIF(2)	Cumulative impact mitigated to below a level of significance
4) INTERSECTION: SR-76 at Old Hwy 395	Add lanes as shown in the next Figure	TIF(2)	Cumulative impact mitigated to below a level of significance
5) INTERSECTION: SR-76 at I-15 SB Ramp	Add lanes as shown in the next Figure	TIF(2)	Cumulative impact mitigated to below a level of significance
6) INTERSECTION: SR-76 at I-15 NB Ramp	Add lanes as shown in the next Figure	TIF(2)	Cumulative impact mitigated to below a level of significance
7) INTERSECTION: SR-76 at Pankey Road	Install traffic signal and add lanes as shown in the next Figure	TIF(2)	Cumulative impact mitigated to below a level of significance
8) INTERSECTION: SR-76 at Rice Canyon Road	Install traffic signal and add lanes as shown in the next Figure	TIF(2)	Cumulative impact mitigated to below a level of significance
9) INTERSECTION: SR-76 at Couser Canyon Road	Install traffic signal and add lanes as shown in the next Figure	TIF(2)	Cumulative impact mitigated to below a level of significance
10) INTERSECTION: Old Highway 395 at Pala Mesa Drive	Install traffic signal and add lanes as shown in the next Figure	TIF(2)	Cumulative impact mitigated to below a level of significance
11) INTERSECTION: Old Highway 395 at Stewart Canyon Road	Install traffic signal and add lanes as shown in the next Figure	TIF(2)	Cumulative impact mitigated to below a level of significance
12) INTERSECTION: Old Highway 395 at Reche Road	Install traffic signal and add lanes as shown in the next Figure	TIF(2)	Cumulative impact mitigated to below a level of significance

TABLE 2.3-22
SUMMARY OF DIRECT AND CUMULATIVE IMPACTS, PROJECT FEATURES, AND OTHER IMPROVEMENTS
(CONTINUED)

Impact, Project Feature, or Other Improvement	Proposed Mitigation	Responsible Party	Significance After Mitigation
13) INTERSECTION: Old Highway 395 at E Mission Road	Add lanes as shown in the next Figure	TIF(2)	Cumulative impact mitigated to below a level of significance
14) INTERSECTION: Mission Road at I-15 SB Ramp	Add lanes as shown in the next Figure	TIF(2)	Cumulative impact mitigated to below a level of significance
15) INTERSECTION: Mission Road at I-15 NB Ramp	Add lanes as shown in the next Figure	TIF(2)	Cumulative impact mitigated to below a level of significance
16) INTERSECTION: SR-76 at E. Vista Way	Add lanes as shown in the next Figure	TIF(2)	Cumulative impact mitigated to below a level of significance
17) INTERSECTION: SR-76 at North River Road	Add lanes as shown in the next Figure	TIF(2)	Cumulative impact mitigated to below a level of significance
18) INTERSECTION: SR-76 at Olive Hill Road	Add lanes as shown in the next Figure	TIF(2)	Cumulative impact mitigated to below a level of significance
19) INTERSECTION: SR-76 at S. Mission Road	Add lanes as shown in the next Figure	TIF(2)	Cumulative impact mitigated to below a level of significance
Cumulative Impacts Continued (Segments)			
1) SEGMENT: Old Highway 395 (E Mission Road to Reche Road)	Widen Roadway to Collector (2 additional lanes)	TIF(2)	Cumulative impact mitigated to below a level of significance
2) SEGMENT: Old Highway 395 (Reche Road to Stewart Canyon Road)	Widen Roadway to a Collector (2 additional lanes)	TIF(2)	Cumulative impact mitigated to below a level of significance
3) SEGMENT: Old Highway 395 (E Mission Road to Reche Road)	Widen Roadway to Collector (2 additional lanes)	TIF(2)	Cumulative impact mitigated to below a level of significance
Cumulative Impacts Continued (State Routes)			
1) STATE ROUTE: 76 (E Vista Way to North River Road)	Widen SR-76 from 2 to 6 lanes.	TIF(2)	Cumulative impact mitigated to below a level of significance
2) STATE ROUTE: 76 (North River Road to Olive Hill Road)	Widen SR-76 from 2 to 6 lanes.	TIF(2)	Cumulative impact mitigated to below a level of significance
3) STATE ROUTE: 76 (Olive Hill Road to S Mission Road)	Widen SR-76 from 2 to 6 lanes.	TIF(2)	Cumulative impact mitigated to below a level of significance

TABLE 2.3-22
SUMMARY OF DIRECT AND CUMULATIVE IMPACTS, PROJECT FEATURES, AND OTHER IMPROVEMENTS
(CONTINUED)

Impact, Project Feature, or Other Improvement	Proposed Mitigation	Responsible Party	Significance After Mitigation
4) STATE ROUTE: 76 (S Mission Road to Via Monserate)	Widen SR-76 from 2 to 4 lanes.	TIF(2)	Cumulative impact mitigated to below a level of significance
5) STATE ROUTE: 76 (Via Monserate to Gird Road)	Widen SR-76 from 2 to 4 lanes.	TIF(2)	Cumulative impact mitigated to below a level of significance
6) STATE ROUTE: 76 (Gird Road to Sage Road)	Widen SR-76 from 2 to 4 lanes.	TIF(2)	Cumulative impact mitigated to below a level of significance
7) STATE ROUTE: 76 (Sage Road to Old Highway 395)	Widen SR-76 from 2 to 4 lanes.	TIF(2)	Cumulative impact mitigated to below a level of significance
8) STATE ROUTE: 76 (I-15 SB Ramp to I-15 NB Ramp)	Widen SR-76 from 2 to 4 lanes.	TIF(2)	Cumulative impact mitigated to below a level of significance
9) STATE ROUTE: 76 (Horse Ranch Creek Road to Rice Canyon Road)	Widen SR-76 from 2 to 4 lanes.	TIF(2)	Cumulative impact mitigated to below a level of significance
10) STATE ROUTE: 76 (Rice Canyon Road to Couser Canyon Road)	Widen SR-76 from 2 to 4 lanes.	TIF(2)	Cumulative impact mitigated to below a level of significance
11) STATE ROUTE: 76 (Couser Canyon Road to Pala Mission Road)	Widen SR-76 from 2 to 4 lanes.	TIF(2)	Cumulative impact mitigated to below a level of significance
Project Features			
1) INTERSECTION: SR-76 at Horse Ranch Creek Road	Construct traffic signal with lane configuration as shown in the next Figure	First applicant to proceed between Meadowood, Palomar College, and Campus Park	LOS C or better with proposed project feature
2) INTERSECTIONS: Six internal intersections (#23, 24, 25, 26, 27, 28 and 29) along Horse Ranch Creek Road and Street R (3)	Construct traffic signals with lane configuration as shown in the next Figure	First applicant to proceed between Meadowood, Palomar College, and Campus Park	LOS C or better with proposed project feature
3) SEGMENT: Horse Ranch Creek Road from SR-76 to southern terminus of Pankey Road south of Stewart Canyon Road	Construct 2 lane roadway	First applicant to proceed between Meadowood, Palomar College, and Campus Park	LOS C or better with proposed project feature
4) SEGMENT: Street R from Pala Mesa Drive to Horse Ranch Creek Road	Construct 2 lane roadway	First applicant to proceed between Meadowood, Palomar College, and Campus Park	LOS C or better with proposed project feature

TABLE 2.3-22
SUMMARY OF DIRECT AND CUMULATIVE IMPACTS, PROJECT FEATURES, AND OTHER IMPROVEMENTS
(CONTINUED)

Impact, Project Feature, or Other Improvement	Proposed Mitigation	Responsible Party	Significance After Mitigation
5) SEGMENT: Pala Mesa Drive from Old Highway 395 to Street R	Construct 2 lane roadway	First applicant to proceed between Meadowood, Palomar College, and Campus Park	LOS C or better with proposed project feature
6) SEGMENT: Pala Mesa Drive from Street R to SR-76	Construct 2 lane roadway	First applicant to proceed between Meadowood, Palomar College, and Campus Park	LOS C or better with proposed project feature
Improvements by others			
1) STATE ROUTE: 76 from I-15 NB Ramp easterly a distance of approximately 1.4 miles	Widen from 2 to 4 lanes	Under Construction by Granite Construction Company	Acceptable LOS with this improvement through Horizon Year (2030)

Notes: (1) If the Caltrans SR-76 Middle project or SR-76 East project is completed prior to occupancy of the first residential unit within Meadowood, the direct Meadowood project impacts to the completed Caltrans project would be fully mitigated. If the first residential unit within Meadowood is occupied prior to completion of the Caltrans SR-76 Middle project or SR-76 East project, the applicant would be responsible for making its fair share contribution toward the uncompleted Caltrans project to mitigate the Meadowood direct project impact(s). Overrides would also have to be made for Meadowood to proceed prior to completion of the SR-76 Middle project or SR-76 East project. (2) The TIF program provides a comprehensive facility financing fee program that addresses existing and forecasted deficiencies to SR-76 and other public street facilities. Applicant's contribution to the TIF will fully mitigate the Meadowood project cumulative impacts to SR-76 and other public street facilities.